Clinical Lecture
ON
AORTIC INSUFFICIENCY.

Delivered at the Liverpool Royal Infirmary,

BY A. T. H. WATERS, M.D., F.R.C.P.,
PHYSICIAN TO THE INFIRMARY.

GENTLEMEN,—I wish to call your attention to-day to the case of James B——, whom you have recently seen in No. 10 ward, and to other cases of a like character which have been under my care, and to make them the subjects of some general remarks on that condition of the heart which we know as aortic insufficiency or incompetency, and which is attended by regurgitation through the aortic valves.

The man B—— came to us when the disease was in an advanced stage, when serious secondary symptoms had supervened, and when nothing like permanent benefit from treatment could be hoped for. He was a fireman at some glass works, thirty-nine years of age, and was admitted on the 26th March last. I did not see him, however, in consequence of absence from home, till the 9th of April. The history he gave was very short. He had never suffered from rheumatism either acute or chronic, and had been able to do his work easily up to three months before his admission. At that time he first found his breathing difficult, and it gradually became worse. About a month before he came to us he noticed swelling of the legs. When admitted his urine was examined, and found free from albumen, and of specific gravity 1018. Thus you see that up to three months before he came here the man considered himself well.

On the 10th of April I examined him carefully. There was dropsy of the legs, arms, and abdomen. The breathing was short, catching, and panting. He was unable to lie down, and had to be propped up in bed. The pulse was 120, strong, sharp, and jerking. There was a single diastolic murmur over the base of the heart, at the lower end of the sternum, and in the course of the aorta. No murmur was heard at the apex and towards the left axilla. There was great pulmonary congestion. The patient had a troublesome cough, and was expectorating sputa somewhat rust-coloured, tenacious, and streaked with pure blood. The urine was scanty.

He had been treated with small doses of digitalis, blue-pill, and squills for a few days after admission, and subsequently with iron and a diuretic. He was taking his food well, but his nights were bad in consequence of the dyspnœa.

I ordered him two drachms of infusion of digitalis with ten minims of tincture of iron every two hours, and three ounces of brandy daily. On the following day he took the mixture every four hours, and subsequently every six hours. It was continued till the 17th. The pulse during this time kept at from 116 to 120; it was perfectly regular, and its character did not alter at all. The patient, however, rested better, passed more urine, had less cough, and the quantity of blood in the sputa diminished. On the 17th I omitted the medicine; but the next day the man was worse: there was more dyspnœa, the expectoration was more bloody, and blood had been passed from the bowels. I therefore repeated the mixture every six hours; little relief, however, was afforded. The appetite began to fail; the dropsy, slightly relieved by puncturing the feet, increased; the dyspnœa became more urgent. On the 20th the expectoration was decidedly bloody, and on the morning of the 23rd the patient died.

At the post-mortem examination we found patches of pulmonary apoplexy scattered throughout the lungs. The heart weighed twenty-six ounces. The right ventricle was much dilated and only very slightly hypertrophied; the pulmonary valves were healthy; the tricuspid orifice was large; the left ventricle was much dilated and largely hypertrophied; the mitral valve was healthy, the orifice large; the left auricle was dilated; the aortic valves were thickened but smooth, there were no growths on them, but, although large, they were incompetent to close the orifice; the aorta was dilated and atheromatous. The muscular tissue was rather pale, and, when examined under the microscope, the striæ were imperfectly marked, and there was decided evidence of fatty degeneration throughout.

Such were the features of this case, and it serves well to illustrate the general symptoms of aortic incompetency, and the morbid conditions which result from it.

The disease is one about which you ought never to make a mistake in diagnosis. Doubtless in the incipient stages of the affection a difficulty may exist; but when once the aortic valves have become really incompetent, the physical signs are so well marked that no mistake ought to be made.

The *murmur* which characterises aortic regurgitation is *diastolic*. There may be, and there generally is, a double murmur, systolic and diastolic (for there is often aortic obstruction), but the latter is the result of the incompetency of the aortic valves, and is therefore the pathognomonic sign of that condition. The murmur is, generally speaking, audible at the base, upwards over the course of the aorta, at the second right costal cartilage, under the right clavicle, and at the lower end of the sternum. In some cases the murmur increases in intensity at the latter spot, whilst it diminishes in the upward direction; and again in other cases it is just the opposite, and has its maximum at the second right costal cartilage. The diastolic murmur lasts till the next ventricular systole, and therefore, if the heart is acting slowly, is very prolonged. In some instances it has quite a musical character, and is so loud that it may be heard at some distance from the body.

The *pulse* presents very characteristic features. Consider for a moment the condition of the heart, and you will at once understand the peculiarities of the pulse. After the ventricle has contracted and expelled its contents, a portion of the blood passes back into it during its dilatation. Thus, at the next contraction, the ventricle contains the blood it has received from the left auricle, *plus* that which has regurgitated from the aorta. This leads to a gradual dilatation of the ventricle, and as the disease progresses, and the aortic valves become more incompetent, so does the capacity of the ventricle increase. But this is not the only result. A process of a salutary and conservative nature goes on at the same time; the ventricle hypertrophies, its muscular walls increase in thickness, sometimes to an enormous extent, so that we find a heart occasionally weighing, as in the case of B——, twenty-six ounces; or, as in a patient who died under my care in the Northern Hospital, thirty-two ounces. The result of this hypertrophy is a powerful contraction of the ventricle on a larger quantity of blood than it contains in health, and hence the arteries are largely and forcibly filled. The pulse is therefore *full, jerking, splashing, visible*; the arteries rise rapidly under the finger, and then rapidly fall; there is a sudden collapse of the vessel, and this is the characteristic feature, as regards the pulse, of aortic regurgitation.

I show you some tracings of the pulse taken by the sphygmograph from patients suffering from this disease. They all present similar characters.

No. 1 was taken from the patient whose case I have related. At the time it was taken the pulse was 120, and getting weak; moreover, the instrument could not be fairly

No. 1.

applied over the artery in consequence of œdema of the arm. The tracings are, however, quite characteristic, but not so high as in the others from the circumstances I have mentioned.

No. 2 was taken from Joseph D——, who was under my care in March, 1872, who had all the physical signs of aortic

regurgitation, and in whom we found after death great incompetency of the aortic valves.

No. 2.

No. 3 was taken, about a fortnight before his death, from a patient to whom I shall refer hereafter, and who had had well-marked symptoms of the disease for at least eleven years.

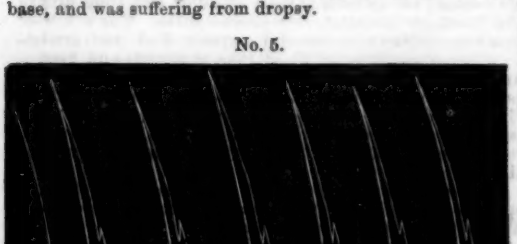
No. 3.

No. 4 was taken from Joseph O——, who was in No. 10 ward, and died in March of last year. We had the physical signs of both aortic and mitral regurgitation, but the aortic diastolic bruit was not very marked, and did not indicate much regurgitation. After death we found growths on the aortic valves preventing their perfect closure. The mitral valve was also incompetent.

No. 4.

No 5. was taken from a patient under the care of Dr. Turnbull, who allowed me to have a tracing of the pulse. It is very remarkable as indicating enormous hypertrophy of the heart. The patient had a double murmur at the base, and was suffering from dropsy.

No. 5.

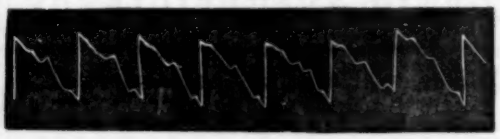


All these tracings were taken from the radial artery.

Although the sphygmograph does not give us any help in the diagnosis of this disease, it affords interesting confirmation of the opinion formed from other sources; and, moreover, by observing the manner in which the downward stroke of the tracing is formed, we are enabled to judge of the extent of the incompetency of the valves.

I show you the tracings of a patient who was under my observation for some years with well-marked symptoms of aortic regurgitation. No. 6 was taken in January, 1868; No. 7 on February 12th, 1870; and No. 8 on April 20th, 1871. You will notice a difference in the character of the downward stroke, especially between the first and second tracings, showing, as the disease progressed, the more rapid collapse

No. 6.



No. 7.

No. 8.

of the arteries. You will also notice the increasing frequency of the pulse—a circumstance which I shall call your attention to presently.

Dilatation and hypertrophy of the left ventricle are not the only changes which occur in the heart in this disease. There are others, and the first I will allude to are fatty or fibro-fatty degeneration of the muscular walls and the yielding of the mitral valve, giving rise to mitral regurgitation. The degeneration of the muscular fibres constitutes, in my opinion, the main element of danger in the disease. As long as the fibres retain their integrity and the ventricle retains its power, the circulation is well maintained; but as degeneration takes place, the ventricle becomes more yielding, is less able to empty itself completely at each systole, and embarrassment results. After a time, varying in different cases, the mitral valve yields, and we have the superadded condition of mitral regurgitation, and then follow enlargement of the left auricle, and those serious secondary symptoms in connexion with the lungs and general system which you have seen in the case of B——.

There is one other condition of the heart met with in this disease which the post-mortem examination of B—— demonstrated—viz., dilatation of the right ventricle. This cavity was largely dilated, but there was very little thickening of its walls. This state of the right ventricle, following as a consequence of the mitral regurgitation and of the embarrassment of the pulmonary circulation, is intimately connected with the general dropsy which occurs in these cases, but to which I shall not further allude now.

Another consequence of simple aortic insufficiency is dilatation of the aorta, and it was well marked in our patient. This condition gives rise during life to certain physical signs. There is dulness on percussion extending from about the sternal end of the third right rib upwards to a little below the right sterno-clavicular joint. This indicates a dilated condition of the ascending portion of the arch of the aorta, but the dilatation sometimes extends along the transverse portion, and this may often be detected by pressing deeply down behind the upper part of the sternum. The pulsation of the artery may be felt here. The dilatation of the aorta is frequently accompanied, as in the case of B——, with atheromatous degeneration. The cause of the dilatation is very evident: the artery has yielded to the violent distension to which it has been subjected, and in the course of time its nutrition becomes impaired.

Let me now call your attention briefly to the morbid conditions of the lungs so frequently met with in advanced cases of this disease. The embarrassment to the circulation leads to extreme congestion of the pulmonary vessels,

œdema of the lungs, and bronchitic attacks; but not only this—pneumonia is by no means infrequently met with, and pulmonary apoplexy is very common. The occurrence of these conditions, especially of the latter, shows the fatal course which the disease is taking.

The pneumonia is usually of a passive kind, but occasionally, as in two of the cases I shall refer to, it assumes an acute character. The following is a well-marked instance of the latter form.

John C—— was admitted into the Northern Hospital, under my care, on the 16th April, 1867, with all the symptoms of aortic regurgitation. He was relieved and discharged, and again admitted in January, 1864, and, after remaining a short time in the hospital, again discharged. Once more he came in under my care in January, 1870. At this time the urine was albuminous, and there was dropsy. He was discharged in July, and readmitted in November. Thus you see I had ample opportunities of watching the progress of his case. He was now suffering from general dropsy, and there was evidence of great hypertrophy of the heart. His general health, however, kept pretty good. He was treated with diuretics and iron, and the dropsy almost entirely disappeared. On the 12th April, 1871, he was seized with the symptoms of pneumonia of the right lung, and his condition became very critical. I treated him at first with carbonate of ammonia and brandy, but he did not improve; the dyspnœa became more urgent, and the pneumonic symptoms assumed a very severe character. On the 24th, after the pneumonia had lasted twelve days, he was in the following condition:—There was great heat of skin; he was expectorating tenacious bloody sputa, and there was dulness with other signs of consolidation over the whole of the back of the right lung. The pulse was 136, and the respiration very hurried. I ordered twenty minims of tincture of digitalis with camphor mixture every four hours, and I wish you to mark the result. I scarcely hoped for any improvement from treatment, considering the severity of his pneumonic attack, and the serious organic disease from which he was suffering. On the 25th the pulse had fallen to 130; on the following day it was lower, and on the 26th it was 100, and the man was greatly relieved. He had been somewhat delirious during the night, but all the severe symptoms were mitigated; the dyspnœa was less, the skin was perspiring, and the expectoration less bloody. The physical signs were about the same. Before I gave the digitalis I had been giving six ounces of brandy daily (which I continued), but no improvement had been produced. From the time, however, that the digitalis began fairly to act an improvement set in, and I think we must attribute to it the favourable issue of the case. The course of the patient subsequently was satisfactory. I stopped the digitalis on the 27th, when the pulse had dropped to 100, and simply continued the six ounces of brandy. On the 29th the pulse was 88; on the 1st May, 80; on the 6th there was scarcely any dulness at the back of the lung; and on the 9th the percussion and breath sounds were normal. The patient left the hospital on the 23rd May.

I will refer you to another case in which the pneumonia was of a milder form, but very difficult to get rid of.

I was consulted some months ago by a gentleman who had had for at least eleven years symptoms of aortic regurgitation. During all this time he had suffered little. He went about much as other people do. He had, from time to time, rheumatic and dyspeptic attacks, but these were soon relieved; and he suffered occasionally from palpitation. It was only a few months before I saw him for the pneumonia that he began to suffer much, and the first distressing symptom was dyspnœa coming on in the night. He found great relief from chloral, which he took in fifteen-grain doses. But after exposure one day in the spring, I was called to him, and found him suffering from inflammation of the left lung. The consolidation was not very marked, but there was dulness over about half the lung, and he was expectorating rust-coloured sputa. The pulse was quick, strong, jerking, and visible. There was evidence of great hypertrophy of the heart, and a diastolic murmur at the base. The urine was perfectly healthy, and there was no dropsy. I used mild counter-irritation, and gave carbonate of ammonia and subsequently iron. Under this treatment the dulness diminished, and the sputa became more natural; but soon the attacks of dyspnœa began to increase in severity. In the course of a few weeks the urine became albuminous, and œdema of the lower limbs set in; this was followed by symptoms of pulmonary apoplexy; and within a week of this occurrence he died.

Here are the notes of another case in which the pneumonia proved directly fatal.

Samuel J——, aged thirty, a labourer, was admitted into the Northern Hospital under my care on June 27th, 1866. There was a well-marked systolic murmur over the base of the heart, and in the direction of the aorta; and, after he had been in a short time, the murmur became double, the diastolic, however, being very faint. The pulse was strong, regular, and visible. On Aug. 20th he complained of pain in the groin, and, on examination, the right femoral artery was found to be the seat of an embolus. He continued without much change till October 5th, when some dulness and crepitation were found at the base of the right lung, and rust-coloured expectoration followed on the 9th. The pneumonia gradually extended until it involved the whole of the back of the lung. At first he took digitalis in small doses, but no good resulted. Subsequently he took stimulants freely, but with no better result, and he died on Oct. 17th. The post-mortem examination revealed old-standing disease of both pleuræ, with very firm consolidation of the posterior part of the right lung, and a cretaceous deposit in the apex of the left. One of the aortic valves had the appearance of having been formerly ruptured, and in another calcareous matter was found. The mitral valve had a little pouch attached to it, enclosing fibrinous and calcareous matter. Fibrinous deposits were found in the right femoral artery.

Expectoration of blood, the result of pulmonary congestion, and *pulmonary apoplexy* are met with in this and in other valvular affections of the heart. I have elsewhere described the anatomical characters of pulmonary apoplexy, and I merely allude to it here as a clinical fact in connexion with aortic incompetency. Our patient B—— suffered from it. It is not likely to occur until there is some yielding of the mitral valve; it is a symptom of very serious import, and generally indicates that the fatal termination of the disease is not far off. You may recognise its existence by the character of the expectoration.

Hæmorrhage from other parts besides the lungs is met with in these cardiac affections. Our patient B—— had hæmorrhage from the bowels, and epistaxis is by no means uncommon.

You will have noticed that most of the cases of aortic regurgitation which have been in the wards have been free from *dropsy*. This symptom is often long delayed. It is only when the mitral valve has yielded that it occurs. Cases go on for many years entirely free from dropsical effusion, which may only appear within a few weeks of death. Œdema of the feet appears first, and gradually creeps up, involving at last the abdomen and even the chest.

I have mentioned the characteristics of the pulse in this affection—namely, that it is full, strong, regular, and jerking. It continues so generally to the end. Sometimes there are intermissions and slight irregularities, but not often. But there is one circumstance which I wish to call your attention to in connexion with the pulse—namely, *its gradually increasing frequency* as the disease progresses. For a long time in many cases the pulse remains moderately slow; but surely, if slowly, its frequency increases, and this shows, in my opinion, the increasing weakness of the muscular fibre, although the ventricular walls are hypertrophied. When the pulse in aortic incompetency reaches 120, and steadily continues at this uninfluenced by treatment, you may generally conclude that life will not be very prolonged.

There is but little suffering, speaking generally, in this affection, except towards its termination, when the dyspnœa becomes most distressing. For years patients will continue to go about, and, except that they have occasional attacks of palpitation, usually to be traced to some over-exertion or error of diet, they feel well; and indeed it is difficult to persuade them that there is much wrong with them. I have now a gentleman under my care who is twenty-one years of age, and has aortic regurgitation with well-marked hypertrophy, and I have the greatest difficulty in persuading him, so little does he suffer, that it is necessary to take care of himself, and to avoid all violent exercises. You know how often patients in the wards disregard our

injunctions to remain in the hospital for protracted rest, and leave us under the impression that they are well and able to resume their work.

Sooner or later in the course of this disease, unless the patient is cut off by sudden death, or some complication, the urine becomes albuminous. This condition is often delayed to a late period. It probably never occurs until the mitral valve gives way, and it is often coincident with the setting in of dropsy.

Now let me call your attention to the circumstances under which, as far as the history will guide us, the disease in our patient B—— probably arose. This will lead to the consideration of some of the causes by which valvular affections of the heart are produced.

The man was a fireman at some glass-works and exposed to great heat, and doubtless his occupation was a laborious one and attended with great muscular exertion. There is no history of rheumatism, nor of any sudden injury to the valvular apparatus of the heart; nor did we find after death any deposits, either inflammatory or atheromatous, in the valves. They were somewhat thickened, it is true, but they were smooth, and apparently not diseased.

I think we are perhaps too apt to overlook the effects of strain on the heart—the influence which long-continued powerful action of the heart may have on its orifices, especially the aortic, and on its valves. We know well, from numerous instances which have been recorded, that sudden violent muscular efforts may rupture or injure the valves, and the prevalence of valvular disease amongst men who lead laborious lives—lives of long-sustained powerful muscular efforts—must strike all who have had experience in cardiac diseases. My belief is, that many cases of valvular disease are produced by the powerful action of the heart necessarily resulting from following certain occupations, and also from violent gymnastic exercises. In the case of B——, it appears to be highly probable that the aortic incompetency was the result of the dilatation of the aortic orifice and of the base of the aorta, from the distension to which they were subjected by the oft-recurring powerful action of the left ventricle. The symptoms in such a case would be slow in developing themselves. Dilatation must proceed to some extent before valvular insufficiency would result: this, at first, would be slight, but, once commenced, it would daily increase, and all the secondary consequences of the affection would ensue. I know how difficult it is to speak positively in reference to this question, but I have now seen several cases in which I could trace no other probable cause of valvular disease than that of strain from strong muscular exertion; and I have under my care at the present time a gentleman who is suffering from aortic regurgitation with symptoms of dilated aorta, which, I think, I can distinctly trace to the practice, some years ago, of gymnastic exercises.

I must defer what I have to say further on aortic insufficiency and its treatment to another lecture.

NOTES OF VISITS TO FOREIGN BATHS.

By JOHN MACPHERSON, M.D.

THE KNIEBIS BATHS.

THERE is an inexpressible feeling of quiet and repose and friendliness about the little cluster of baths known as the Kniebis group. They are easily reached by carriage from the railway station of Appenweier. In natural scenery and in mineral constituents they are all essentially the same. They are all in wooded valleys, and more than 1000 feet above the sea. Their waters are pretty strong chalybeates, containing small quantities of Glauber salts. The only exception to this is the quiet little Sulzbach in a side valley off the Rench Thal, at a height of 1068 feet—not to be confounded with the place of the same name on the other side of the Rhine already mentioned. It is a little off the road to Petersthal, three-quarters of an hour from Oppenau. It supplies lukewarm waters of the temperature of 72·5°, containing about 6 grains of sulphate of soda and 4 of its bicarbonate, with little more than a trace of iron. They thus closely resemble the waters of Bertrich, but are 20° cooler. The place is little visited; it offers a mild climate, quiet and simple amusement, and cheap living.

Without turning aside to this spot, I went on along the valley, and reached Freiersbach, 1281 feet, which is, indeed, practically a portion of Petersthal, being scarcely twenty minutes distant. Of the four springs I shall only say that the Gas one contains 10 grains of carbonate of lime, 4·5 of carbonate of magnesia, 6 grains of sulphate of soda, and nearly ·4 of carbonate of iron, and is extremely pleasant to drink; while the Sulphur well, so called owing to the presence of a little sulphuretted hydrogen, is a very pure and strong chalybeate, containing ·77 per cent. of iron.

There are prettily wooded banks and old-fashioned hotels, like barracks, containing the baths; also vapour and pine-extract baths. A new building has recently been erected over the Sulphur spring.

But Freiersbach is quite eclipsed by Petersthal, 1333 feet above the sea level, with its showier and more modern arrangements, its pretty and at the same time comfortable hotel, and all the ordinary appliances of a bath, which now numbers some 8000 annual visitors, among whom are many Russians.

The three springs here are all essentially the same, and characterised by the presence of an immense supply of carbonic acid. The Peters, the Salt, and the Sophia wells all contain about 11 gr. of carbonate of lime, 3·5 gr. of carbonate of magnesia, and about 6 gr. of sulphate of soda, with ·34 gr. of carbonate of iron. The different action of the springs is thus characterised: the Petersquelle is supposed to suit weak digestion best; the Saltzquelle, having a grain and a half more of magnesia, acts most on the intestines; and the Sophiaquelle, containing ·111 gr. of carbonate of lithia, is declared to be especially useful in affections of the bladder and kidneys.

Though the waters are used mostly for drinking, they are also employed for baths; and you may have sitz baths and douches, and the *wellen* or wave baths of which the Germans are so fond, in the stream of the Renche.

Seeing Petersthal as I did in beautiful weather, it appeared to me a very attractive spot. Its waters and, indeed, those of Freiersbach are largely exported. The Peterswell is the pleasantest to drink, and is most bottled.

Going up the valley to Griesbach, which is only four miles distant, one passes on the left the road leading to Antogast, the oldest of all these baths; it was described in 1538. Indeed, all the Kniebis baths were quite as well known in the end of the sixteenth and the beginning of the seventeenth centuries as they are now. Antogast lies at a height of 1610 feet above the sea level. Its waters differ from the neighbouring ones in containing a few grains of carbonate of soda, and less carbonate of lime, also less iron. It is said to be a quiet, picturesque place, but is little frequented, and the arrangements are not of the first class.

We soon reach Griesbach (1614 feet), which has of late become extremely popular. As there are only the public establishments, it is often difficult to get accommodation here. A new bath-house has lately been erected. Everything looked fresh and new and comfortable, and the neighbourhood is very pretty; gardens and walks have been laid out. The waters of Griesbach contain less carbonic acid than those of Petersthal, which is a disadvantage as regards bathing. But the drinking-well, with ·6 of carbonate of iron, is quite strong enough, and contains more carbonic acid, but its proportion of carbonate of lime (12·2) is rather high. There are arrangements here for pine extract baths and inhalations. Griesbach is a very favourite bath for ladies. It is quieter than Petersthal. I have known an English family go there for several successive seasons.

Immediately beyond Griesbach, the road over the Kniebis commences to ascend in a series of zig-zags, from which there are beautiful views over the Black Forest. The top of the Kniebis is flat and uninteresting. The road soon takes us down into the Kinzig valley on Rippoldsau—on the whole, the most important, as it is the most picturesque and the highest of the group, situated in pine forests at an elevation of 1886 feet.

Rippoldsau lies in a narrow valley among hills covered with fir woods, which yield the aroma so grateful to most lungs. In the middle of September, when the bath establishment was just closing, the air had a feeling of great

freshness. At night it was cold. The establishments here are all on a large scale, and conveniently grouped together. Improvements are introduced from time to time. There are the steel baths, heated in the usual way by steam, and the pine-extract baths. There is a pleasant promenade under an avenue of lime-trees; and there are endless paths through the woods, recommended for their *odor sylvaticus* to patients with pulmonic affections.

The waters abound in carbonic acid. Of the wells, the Josepsquelle contains most Glauber salts. The Wentzelquelle holds as much as ·944 of carbonate of iron; it is therefore very strong. The Leopoldsquelle is distinguished by its smaller amount of Glauber salts, and by the presence of some sulphuretted hydrogen. The Wentzelquelle is therefore the one most used when it is desired to act tolerably freely on the alimentary canal; but as its waters are often not quite strong enough for this purpose, it is supplemented by the Natroine water, which is artificially prepared, both here and at Petersthal, and which contains a double salt of carbonate and of sulphate of soda, in imitation of the Marienbad Kreuzbrunn. It is particularly useful in abdominal congestions, and in hyperæmia of the liver.

Going down the lovely valley towards the railway at Hausach, one first passes Klösterli, where the monks take in the bath guests, as they are called, as lodgers, and near which boarding-houses have sprung up, only a quarter of an hour's walk from Rippoldsau; and further down, at the foot of the hills, one comes on the pretty village of Wolfart with its pine baths.

Before leaving the iron springs of the Black Forest, I may remark that it is evident that powerful iron waters with slightly aperient qualities, and milder than even the milder ones of Franzensbad and of Elster, but more active than those of Pyrmont, are adapted for a great variety of conditions, and very specially for many affections of women. You have quiet and repose, beautiful scenery, and almost an Alpine climate, associated with excellent chalybeates.

CARBOLIC ACID AND ZYMOTIC DISEASE.

BY JOHN DOUGALL, M.D.,
MEDICAL OFFICER OF HEALTH FOR THE BURGH OF KINNING PARK, GLASGOW.

A BREAKFAST-SAUCERFUL of pure crystallised carbolic acid liquefied by a minimum quantity of water was placed on a table close to a small iron stand six inches high. Both were covered with a glass bell-jar of one cubic foot capacity, its roof being one foot above the surface of the table and six inches above the top of the stand. Twelve hours after, the interior of the jar being then filled with concentrated carbolic vapour, the jar was raised vertically, and a slip of glass on which was placed a minim of vaccine lymph (reaction alkaline) laid on the stand; the jar was at once replaced, and in the heart of this cubic foot of strong carbolic vapour the minim of lymph was buried for thirty-six hours. At the end of this time, the lymph, now shrunk into an opalescent scab, was moistened with a little water and glycerine (mixture neutral) and sealed in capillary tubes. A few days after a child was vaccinated with the contents of the tubes, and a perfect vesicle resulted, from which I filled twelve tubes. The lymph from two of these tubes was mixed on a slip of glass with one minim of a 1-in-50 aqueous solution (1-50th of a grain) of carbolic acid (mixture neutral). In twelve hours the mixture, now dried into a film, was laid by. After ten days it was moistened with water and a child successfully vaccinated with it. Ten tubes were filled from the vesicle, the lymph from which and from the previous vesicle was used for subsequent vaccinations, all of which were successful.

The effects of other volatile media on lymph were also tried in the same way, except that the lymph was exposed to their action only twenty-four hours. The results obtained are strikingly conclusive, as seen in the following

Summary of results of Vaccination.

	Reaction of mixture of Lymph and Glycerine.
SUCCESSFUL.	
Carbolic acid (vapour) ...	Neutral
Carbolic acid and lymph ...	,,
Chloroform	Alkaline
Camphor	,,
Sulphuric Ether	,,
Iodine	Neutral
UNSUCCESSFUL.	
Chloride of lime	Acid
Sulphurous acid	,,
Nitrous acid	,,
Glacial acetic acid	,,
Hydrochloric acid	,,

The above table shows that the mixture of lymph and glycerine of the successful vaccinations was either neutral or alkaline, while that of the unsuccessful was, without exception, acid. Hence it follows that strong acids, or a body causing acidity by chemical affinity—e.g., chlorine,—are destructive of the active properties of vaccine lymph, and therefore *a priori* of variolous matter and other zymotic poisons.

But to return to carbolic acid; the lymph was exposed to its vapour for thirty-six hours, while the other portions of lymph were exposed to the other vapours only twenty-four hours. Furthermore, carbolic acid was, as stated, actually mechanically incorporated with lymph, and, moreover, lest the genuineness of the vesicles produced by the two kinds of carbolised lymph should be questioned, their lymphs were repeatedly vaccinated "in and in" with unvarying success. These simple facts show that the present extensive use of carbolic acid as an anti-zymotic is a serious delusion. If a minim of vaccine matter is unaffected after being buried for thirty-six hours in the heart of a cubic foot of concentrated carbolic vapour, or after being mixed with the acid in the proportion of 1 in 50 for ten days, it is surely plain that the destructive action of carbolic acid on variolous matter and other zymotic poisons must be *nil*, seeing that the conditions of the experiments are far more severe than are possible in practice. But premising that carbolic acid is relatively a fair antiseptic (I have found it nothing more*), it by no means follows that it is *pro tanto* anti-zymotic. We have no valid grounds to assume, as is constantly done, that because carbolic acid can prevent or arrest putrefaction, it can therefore annihilate zymotic poison. Antiseption means preservation, not destruction. As proven by the action of carbolic acid on vaccine lymph, it conserves both the physiological and physical properties of the antiseptic body; at least it does not impair them. Thus the contagia which it is thought are destroyed are preserved. To get rid of zymotic poison, destructives, not preservatives, must be used. These, as pointed out, are chiefly the mineral acids.

A CONTRIBUTION TO THE

SURGERY OF NATURAL AMPUTATION AND SPONTANEOUS FRACTURE.

BY WM. CURRAN, L.R.C.P.Ed., M.R.C.S.L., &c.,
ASSISTANT-SURGEON, ARMY STAFF.

(*Concluded from p. 261.*)

FOR details of the tables herewith subjoined I am mainly indebted to the courtesy of my friend Dr. E. S. O'Grady, of Dublin, who has lent me, throughout this inquiry, his very valuable aid, and of whose advice and suggestions I have frequently availed myself in the course of this and other kindred investigations. It is but fair to observe that I cannot undertake to guarantee the entire accuracy of all the references, as I had no opportunity of verifying them myself in person; but I have great confidence in the diligence of my friend. They are, however, I think, in the main correct; and they will, at any rate, serve as a guide to other workers in the same field who have more time at their disposal and better opportunities of consultation at their command.

* See on Putrefiers and Antiseptics. Glasgow Medical Journal of Nov. 1872, and Feb. 1873.

TABLE OF CASES OF SPONTANEOUS FRACTURE, SHOWING THE DISEASE OR DIATHESIS BY WHICH IT WAS PRODUCED AND THE PARTS IMPLICATED THEREBY.

No.	Name.	Age.	Sex	Present disease or diathesis.	Previous history and duration of illness.	Parts affected.	References.	Result.	Remarks.
1	—	45	F.	Cancer ...	... ...	Humerus, and femur a few days afterwards.	*American Medical Times*, vol. i., p. 24	...	Breast was removed five months before occurrence of first fracture.
2	G. R.	33	M.	... ...	... ...	Femur below the trochanter.	Ibid.	Recovery	In attempting to pull off his boot the femur broke immediately below the trochanter. The fracture was consolidated in six weeks.
3	S. L.	12	M.	Epilepsy with partial hemiplegia of right side.	Had been subject to epileptic seizures from the fifteenth month of his age to date of occurrence here referred to.	On April 10th left femur broke at junction of upper and middle third. June 1st, united with considerable shortening. Dec. 13th, right femur broke in some way. No attempt was made at union and patient declined, and died on the 29th of the following month.	Ibid., p. 41 ...	Death	These parts were broken or gave way on each occasion during a violent epileptic fit, which caused unusual excitement and agitation.
4	P.	35	M.	None ...	None	Humerus near superior third, on a level with insertion of the deltoid.	Quoted from *L' Union Médicale* in *American Medical Times*, vol. iv., p. 183	Recovery	The bone—right humerus—gave way whilst the patient was playing at tourner poignet. It became consolidated in thirty-five days.
5	R. J.	38	M.	A stout-built and very muscular man, in apparently good health.	None	Right humerus at the attachment of the deltoid.	Wm. Parker, M.D., in *New York Jour. of Med.*, &c., 3rd Series, vol. ix., p. 94, commonly called *Purple's Journal*.	Recovery	Occurred in the person of a methodist clergyman while preaching and gesticulating violently in the pulpit. Union took place in the usual time.
6	G. P.	35	M.	Phthisis ...	Disease appears to have set in with the usual symptoms, and to have run the usual course.	Clavicle about inner third.	Ibid.	Recovery	Injury was induced by an attempt to strike a dog a blow with a heavy whip, and the patient died of phthisis within three years of its occurrence. The bone united favourably in the meantime.
7	T. C.	—	—	Syphilis ...	Contracted syphilis five years previously.	Humerus	Ibid.	Recovery	The humerus gave way in the act of throwing a peach, but united satisfactorily in due time. This resembles the case quoted above from Dr. Mackintosh, and only differs from it in that the force employed was apparently greater in the latter.
8	E. P.	—	F.	Cancer ...	... ...	Tibia, femur, and clavicle.	Ibid.	Recovery	The patient slipped over a step of 6 in. or 8 in. in July, 1848, and broke her right tibia, which, however, united satisfactorily. She slipped again on the rind of a pear the following July, and broke her thigh about the middle and lower third. This united in Nov. 1851.
9	C.	38	M.	Syphilitic...	... ...	Right humerus ...	Ibid.	...	Broke his right humerus whilst drawing a tooth.
10	—	25	F.	... ...	... ...	Sternum	Quoted from *Jour. des Progrès* in the *American Jour. of Med. Science* (Old Series), vol. i., p. 444.	Death	A transverse fracture of the sternum occurred during the throes of labour in a woman aged twenty-five, who died of exhaustion fifteen days afterwards.
11	E. R.	48	F.	Malignant diathesis.	Appears to have suffered for upwards of eleven years from a cancerous tumour in right breast, and was also leucocythæmic.	Femur and pelvis ...	*Philadelphia Med. and Surg. Reporter*, vol. iv., p. 309.	Death	Right thigh gave way about the upper part while walking across a room, and united in twelve weeks. Broke same (?) thigh again in January, and died of exhaustion Aug. 27th of the same year.
12	—	—	—	... ...	... ...	Thigh	*Provincial Med. and Surg. Journal*, vol. iv., p. 269.		
13	M. J.	2½	M.	Strumous diathesis.	Has been ailing and unhealthy since he was eight months old.	Left humerus, tibia, and fibula; right femur, radius, and ulna.	Transactions of the Pathological Soc. of London, vol. viii., p. 403.	Death	For details (which are very interesting) I must refer to Dr. Salter's article in the original.
14	R.	41	M.	None ...	Has had twenty-three years' service, seventeen of which were passed in India.	Humerus	Transactions of the Med. and Physical Soc. of Calcutta, vol. i., p. 159.	Recovery	Fracture occurred while he was engaged in throwing a long bullet overhand. The fracture united within the usual time.
15	—	—	—	... ...	... ...	Femur	*Glasgow Medical Journal*, vol. ii., p. 607.	...	Must refer for details to original, which is not accessible at present.
16	Child.	—	—	... ...	... ...	Femur	*Edinburgh Medical Journal*, vol. i., p. 337.	...	Ibid.

TABLE OF CASES OF SPONTANEOUS FRACTURE, ETC. (CONTINUED).

No.	Name.	Age.	Sex.	Present disease or diathesis.	Previous history and duration of illness.	Parts affected.	References.	Result.	REMARKS.
17	T. W.	—	M.	Syphilitic	Has had a six months' course of mercury, and was somewhat debilitated in consequence.	Humerus	*London Medical Repository*, vol. iii., p. 279.	...	While engaged in rolling up the mattress of his bed the arm gave way. A case of transverse fracture of the patella, which occurred in the person of a short, muscular sailor, while leaping on shore from a boat, is recorded in the same journal.
18	—	53	F.	Paralysis and painful spasms.	Has been subject to frequent and very painful contractions of the muscles of the trunk and arms, during one of which the humerus gave way at the origin of the brachialis anticus.	Humerus	Ibid., vol. iv., p. 191	Recovery	The subject of this injury was a delicate woman, of spare habit and highly nervous temperament, who had been paralysed for eight years, and who suffered so much from pain during treatment as to require on an average twenty-two grains and a half of opium daily.
19	—	—	M.	... ...	... ...	Clavicle	Ibid., vol. xvii., p. 289.	...	Two cases are included here, in each of which the patient, whilst cutting straw and clover, missed his stroke with the knife, and fractured the clavicle in his attempt to check or arrest the downward tendency of the arm.
20	—	29	M.	Scrofulous sore of right knee.	... ...	Right femur precisely at the middle.	*American Quarterly Journal*, vol. vii., p. 211.	...	Occurred in the person of a cavalry soldier, who, while sitting cross-legged on the floor of the hospital, attempted suddenly to rise. In the act of doing so, the femur gave way transversely at the middle, and the fracture was doubtless due to the muscular effort made to rise.
21	—	36	M.	None ...	Healthy	Radius and ulna ...	The Human Skeleton, by Prof. Humphry, p. 55; see also *British Med. Jour.*, Fresh Series for 1869, p. 597.	...	Occasioned by the spade with which he was shovelling earth catching a root in the ground; the jar broke the radius a little below the tubercle, and the ulna about an inch and a half from the lower end.
22	—	56	M.	None ...	... ...	Pelvis	Human Skeleton as above.	...	In this instance a man broke his pelvis while riding an unruly horse.
23	Mrs. H.	51	F.	... ...	... ...	Humerus and femur	*Association Medical Journal*, vol. ii., p. 197.	Death	Mr. Chadwick describes this case as follows:—A widow, healthy, the mother of four children, while removing a tea-tray, the humerus gave way with an audible snap in the middle; and a few months after she broke her thigh. Neither bone united, and she died a few months after the second accident with extensive bedsores.
24	F. L.	23	M.	Of dissipated habits and the subject of syphilis.	Took mercury freely	Humerus	Ibid.	...	The right humerus gave way about 4 in. above the elbow while he was lifting a young child out of bed; the left humerus gave way some five months subsequently at centre as he was lifting a pan from the fire. Both bones ultimately united; but he sustained nine different fractures in less than eight years, and the most trivial exertion sufficed to produce one.
25	—	65	F.	Cancer of breast.	... ...	Femur	... ...	...	The thigh gave way whilst she was rising from her chair.
26	—	56	M.	... ...	Had been bedridden for some years before he sustained at intervals a fracture of either femur whilst he was being turned in bed.	Both femurs through the shaft about 2 in. below the lesser trochanter on either side.	Mr. Callender in Transactions of the Medico-Chirurgical Society of London, vol. li., pp. 146–47.	Union, followed by death.	The posterior portions of right fracture united firmly and smoothly at an acute angle; left femur united at an angle of 75°, but was broken again a few days before death. On examination, the texture of the bones was found to be "soft, light, and spongy, and infiltrated with fatty matter."
27	—	35	M.	Was thin and feeble on his return from Australia to England.	Led a rough life, and had syphilis in Australia; but had no evidence of this or other disease except pain about the middle of his left arm.	Left humerus across its middle.	Ibid., pp. 147–48.	Recovery	Sustained the fracture in trying to pull down a cab window with his raised left arm; ..... and in six or seven weeks the fracture was well united, with the aid of iodide of potassium and some other ordinary treatment.
28	—	50	M.	Abscess ...	About five weeks before, whilst exercising a pair of horses, the one he was leading started away from the other on which he was mounted, giving his arm a severe wrench.	Humerus	Ibid., p. 150 ...	Death	Although his general health improved, yet, despite treatment, the humerus showed no tendency to unite; and the patient, having been previously weakened by bleeding from a wound made for discharge of pus, "it was found necessary, forty-four days after the accident, to amputate the limb. ..... He died ten days later."
29	C. B.	72	F.	Fracture of right femur and humerus consequent on mollities ossium.	She had been an inmate of the Poplar Workhouse since Sept. 1827 to Feb. 18, 1833; and had been bedridden for nearly four years on account of paralysis of the lower extremities.	Right femur and right humerus.	Transactions of the Medico-Chirurgical Society of London, vol. xx., pp. 356–57.	Death	On being turned in bed by a nurse on the morning of admission, her right thigh was suddenly fractured. About a fortnight afterwards, whilst being moved in bed, her right humerus was also broken. On section, "the femur consisted of a thin shell of bone filled with medulla, its cellular structure being entirely obliterated. ..... The walls of the bones of the superior extremities were preternaturally thin, and their medullary cavities were evidently enlarged."

ON THE MECHANISM OF THE PRODUCTION OF CERTAIN DISPLACEMENTS OF THE UTERUS.

BY JOHN WILLIAMS, M.D. LOND., M.R.C.P.,
ASSISTANT OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

IN a paper recently published in THE LANCET the limits of the changes occurring normally in the unimpregnated uterus were defined. In no one of those positions were any of the so-called uterine ligaments put on the stretch by reason of the position assumed by the uterus. The utero-sacral and utero-vesical ligaments were, however, put on the stretch when the rectum and the bladder were both distended. The stretched condition of the ligaments was not due to the position of the uterus, but to the distended state of the organs with which they are connected. Of course, when the rectum alone is distended the utero-sacral ligaments only are stretched. It follows, then, that, whatever may be the use of the so-called uterine ligaments, it is not to limit the antero-posterior movements, ascent and descent, of the unimpregnated uterus.

Having premised this much, we are in a position to investigate the mode of production of abnormal positions of the uterus. In the present paper the mode of production of antero-posterior displacements—anteflexion, anteversion, retroflexion, and retroversion—will alone be considered.

A change in the position of any body can be produced by mechanical force only, and therefore the mode of production of displacements of the uterus is a question of mechanics.

The uterus is a semi-rigid tubular organ, having walls traversed by canals which anastomose freely and which are filled with fluid. In what ways is it possible to produce a flexion of such an organ? A bend in an organ so constructed may be brought about in any one of the following ways:—(*a*) By a force acting at one end in the direction of the flexion, the other end being fixed; (*b*) by a force acting at each end, the middle being fixed; (*c*) by a force acting at a point situated between the two ends, the latter being fixed; (*d*) by gravitation, one end being fixed, when the organ has been lengthened without proportionate increase in the thickness of its walls, or when the canal has been enlarged the thickness of the walls remaining the same, or when the thickness of the walls has been diminished the canal remaining the same, or when the fluid contained in the canals anastomosing in the walls of the organ has been removed or greatly lessened, or when the consistence of the material forming the walls of the organ has been so changed as to become quite soft.

What are the mechanical forces which can act on the uterus? The force of gravitation is one which is quite insufficient to produce a flexion of the unimpregnated uterus in any condition of the organ which I have met with. As a cause of flexion, indeed, it may be utterly ignored, but as a cause of version it is the most prevalent.

The force generated by the distending rectum acts invariably on the under and posterior surface of the uterus in such manner as to raise and push the organ forwards.

The distending bladder produces a force which always acts on the anterior surface of the organ and pushes backwards at the same time that it slightly elevates the uterus.

The force of the diaphragm communicated from above through the abdominal viscera may strike the fundus directly, or may strike the anterior or posterior surface of the fundus—depending on the position which the organ occupies at the time. This force is directed downwards and forwards in the direction of the continuation of the anterior surface of the spinal column; so that when the fundus is raised above or in front of the plane continuing the anterior surface of the spinal column the posterior surface of the fundus will be struck by the diaphragmatic force, and anteflexion becomes possible. If, however, the fundus of the uterus be below or behind the before-mentioned plane, the force of the diaphragm will act on its anterior surface, driving it further back into the hollow of the sacrum.

The force produced by the abdominal muscles is directed backwards, and can usually act on the anterior surface of the uterus only, pushing it back into the sacral hollow. When the uterus is elevated, however, the force produced by the action of the abdominal muscles strikes the superior surface of the fundus, driving the uterus lower into the pelvis.

The other forces which may act on the unimpregnated uterus are: the weight of the superincumbent viscera, the force of inertia in falls, jolts, &c.

Adhesion of the fundus to the peritoneum in front of or behind the uterus is not very uncommon. Occasionally the organ is closely bound down in a retroflexed position, but usually the bands forming the adhesions are of considerable length, and they allow of considerable movement of the fundus. I think it is very improbable that adhesions ever cause flexion; in most if not all cases where the uterus is closely bound down the adhesions and the malposition were simultaneous in their origin; the adhesions, however, served to maintain the malposition.

Anteflexion.—When the uterus lies in the pelvis below and behind a line drawn in continuation of the anterior surface of the spinal column, the only forces that can act on its posterior surface are the distending rectum and growing tumours. Growing tumours may cause anteflexion, but the distending rectum cannot. When, however, the uterus is elevated above or in front of the line drawn in continuation of the anterior surface of the vertebral column, other and most powerful forces may act on the posterior surface of the organ and push the fundus forward. These forces are, the force of the diaphragm, the weight of the intestines, and inertia from falls, &c. When the rectum is full and the bladder is full the uterus occupies a higher position in the pelvis than in any other condition of these organs. It is raised above or in front of the imaginary continuation of the spinal column. In this position the fundus is free to move and is quite unsupported anteriorly, for there is a space between the anterior wall of the uterus and the posterior wall of the distended bladder. The cervix, however, is fixed, and cannot be moved in any direction. This is brought about by several agencies: the rectum is distended, and resists any movement of the cervix in a posterior direction; the anterior wall of the vagina and the base of the bladder are stretched to their full tether and prevent any backward movement; the utero-vesical ligaments are stretched, and the connective tissue medium uniting the cervix of the uterus to the posterior angle of the bladder is put to the full stretch, so that the neck of the uterus is firmly bound to the bladder and all movement is prevented. This is one position of the uterus in which anteflexion can take place; indeed, it is the only one, for in all other positions of the organ in which a force can be exerted on the posterior surface of the fundus of the uterus, so as to drive it forwards, the cervix is freely movable. A strain, or severe exertion, or a fall, when the uterus is in the above position, will produce anteflexion.

A fibrous tumour growing in the posterior wall of the uterus, involving the cervix and a great part of the posterior wall, but leaving a free portion near the fundus, may enlarge, fill the pelvis, elevate the uterus, and fix the lower part of it, so as to bring the organ into a condition in which anteflexion is possible.

Adhesions between the anterior wall of the uterus and the bladder are not very common. In the cases of adhesion which I have seen the connecting bands were of such length that it would have been impossible for them to have caused flexion. In one such case anteflexion existed. The adhesions were over an inch long, and probably came on from an attack of pelvic peritonitis after the flexion had occurred.

Anteversion.—There is a form of anteversion described, but said to be very rare, which is called "complete anteversion." I have never seen such malposition. There are two ways in which it is possible for it to occur. I pointed out in a former paper that when the bladder is empty and the rectum full the uterus is anteverted—the whole length of the organ lying on the collapsed bladder and the anterior wall of the vagina, the fundus being immediately behind the symphysis pubis. In the so-called complete anteversion the uterus lies on the bladder and anterior wall of the vagina, but the fundus is at some distance behind the symphysis. This may be congenital or acquired. In the former case the anterior wall of the vagina is naturally too long. In the second case the anterior wall of the vagina has been artificially elongated. Dr. Marion Sims relates a case in his "Uterine Surgery" which favours this view. He

performed an operation in order to shorten the anterior wall of the vagina, and the malposition was cured. The acquired elongation of the anterior wall may possibly occur after pregnancy, but more probably from great exertion when the uterus is already anteverted—that is, when the bladder is empty and the rectum is full.

Retroflexion and Retroversion.—When the uterus occupies a position below or behind the plane which would form a continuation of the anterior surface of the spinal column, the action of the diaphragm, of the abdominal muscles, weight of viscera, inertia from falls, &c., is to push the fundus backwards and downwards. When the rectum is empty the uterus occupies such a position; the bladder may be full or empty. The condition of the rectum, then, is the important matter in the consideration of retro displacements. The rectum may be empty under a variety of circumstances. The bowels may be regular, and then the rectum is occasionally full and occasionally empty. When the rectum is empty the uterus is somewhat retroverted. Any sudden exertion, strain, or fall under these circumstances will increase the retroversion, or may even produce retroflexion. But the bowels may be constipated—that is, they may be open every three or four days,—and there is much straining at stool; and what is passed consists of a few small, hard fæcal masses. The condition of the rectum in these cases is one of comparative emptiness; it is not at all distended: indeed it contains only a few small, hard masses of fæces lodged in its folds, and great force is necessary to dislodge them. (This is the usual condition of the rectum in patients suffering from constipation and passing such stools as described; at the same time there are cases of constipation in which the rectum is much distended, but the state of the stools in these cases is totally different from the condition stated above. Of cases of constipation, some of the most obstinate are those in which the rectum is immensely distended.)

The physiological actions performed at a healthy stool (the rectum and bladder are always full) are, first of all, evacuation of the bladder: as the bladder collapses the uterus becomes anteverted; the rectum is then emptied, and, in consequence, the bladder and the uterus sink somewhat lower in the pelvis; and as soon, probably, as the woman begins to walk the uterus falls to its lowest normal position—the cervix comes to rest on the top of the inclined plane of the vagina. When, however, there is constipation with much straining at stool this does not happen. The rectum is from the first comparatively empty, the bladder is full, and the uterus is somewhat retroverted. The first physiological act performed at stool is evacuation of the bladder. As the rectum is almost empty the uterus does not become anteverted as the bladder collapses, as it does in health. It was from the first somewhat retroverted, and it only descends slightly by the evacuation of the bladder: it still remains retroverted. Having emptied the bladder, the person proceeds to empty the rectum, which is by no means easy. She strains, and the uterus becomes still more retroverted. She strains again until a few small, hard masses are passed. The uterus by this means is driven still lower, especially the fundus. The uterus lies now with the fundus directed backwards and somewhat downwards; the cervix is directed forwards and slightly upwards; and the uterus, at the junction of its neck and body, rests on the posterior wall of the vagina, so that the organ cannot descend lower as a whole. Here we have the middle point of the uterus fixed, with both extremities movable; for the fundus may descend until it reaches the bottom of Douglas's pouch, and the cervix may descend, or it may ascend until the anterior vaginal wall is fully stretched. This position of the uterus is one of great retroversion.

During the act of straining (the uterus having been driven into the above position) the mass of the intestine acted upon in front and above by the diaphragm and the abdominal muscles is driven into the pelvis, and acts like a wedge. One of two things may happen. Should the anterior wall of the vagina be sufficiently long to allow the fundus of the uterus to be pushed to the bottom of Douglas's pouch, that may take place. The fundus of the uterus by this means becomes fixed, and the middle point is also fixed; any further straining will bend the cervix downwards into the vagina, and retroflexion is the consequence. But the anterior wall of the vagina is, as a rule, not so long as to allow the cervix to ascend to such a degree as to permit the fundus to descend and become fixed in Douglas's pouch. In this case, as soon as the anterior wall of the vagina has been fully stretched, the cervix becomes a fixed point, the fundus is by further straining driven lower down into Douglas's pouch, and retroflexion is the result. The fundus of the uterus with its broad ligaments having been driven into Douglas's pouch, the veins of the latter become constricted by the utero-sacral ligaments, which form the upper margin of the pouch, and in this manner is caused the congestion of the body of the uterus so commonly associated with retroflexion of the organ. In cases of simple anteflexion of the most acute kind occurring in virgins, the enlargement of the body of the uterus is not marked. In women who have borne children, however, there is often considerable enlargement; but this enlargement is due to complications accompanying the flexion.

In many cases of retroflexion in which there is difficulty in replacing the body of the retroflexed uterus, the cause of the obstruction is to be looked for, not in adhesions, but in the state of the uterus itself and of the utero-sacral ligaments. The fundus and part of the broad ligaments in these cases have been for a long time lodged in Douglas's pouch; the utero-sacral ligaments compress the broad ligaments and the lower part of the body of the uterus; the portions of the broad ligaments immediately adjacent to the uterus and the uterine body itself are mechanically congested and swollen, so as really to be too large to pass up between the somewhat stretched sacro-uterine ligaments. If in some of these cases the cervix be pushed back, the utero-sacral ligaments are somewhat relaxed, and the fundus of the uterus can be pushed up between them, and the displacement reduced.

Diminution in the amount of blood in the vessels of the uterus is little, if at all, known, though congestion—a condition most unfavourable to the production of flexion—is said to be not uncommon. Probably those curious cases of flexion which are sometimes directed forwards and sometimes backwards are due to a deficiency of the circulating fluid in the uterine vessels. This view is favoured by the fact that such cases occur almost invariably in very anæmic women.

Softening of the tissue of the uterus is a condition of the organ the pathology of which has yet to be elucidated. I have seen it only in cases of pregnancy, some cases of fibrous tumours, and some cases where the uterus had contained foreign bodies. This would point to its being due to rapid growth or to rapid change of tissue. I have never seen a uterus whose tissues were so soft that it could be said that the soft condition was capable of causing flexion; nor have I seen a flexed uterus so soft that the flexion could in any way be ascribed to that condition.

Anteflexion of the uterus, then, is possible only when the bladder and rectum are both full enough to raise the fundus of the uterus above and in front of an imaginary plane continuous with the anterior surface of the spinal column.

Anteversion is only possible when the rectum is full and the bladder empty, except when the uterus is considerably elongated, in which case it is the permanent condition. The so-called "complete anteversion" is only possible when the anterior wall of the vagina is of unusual length.

Retroversion is only a step towards retroflexion. Both conditions may be produced when the rectum is empty, and that is a necessary condition for their production.

Elongation of the uterus, enlargement of the uterine canal, and diminution of the thickness of the uterine walls, are questions which can be discussed only in connexion with pregnancy and fibroid tumours.

On the influence of the above conditions in the production of displacements, as well as on the pathology of flexions generally, I hope to publish on a future occasion.

A QUANTITY of arseniate of soda, which had been thrown away from a manufactory at Blackburn last week, was mistaken for sugar by some children, who greedily devoured it. One boy died, and thirty children are now suffering from the effects of the poison. At the inquest on the deceased, the jury returned simply a verdict of "Accidental death." It is difficult to understand how it was that no rider was appended to the verdict dealing with what we cannot but regard as culpable carelessness in the disposal of so powerful a poison as arseniate of soda.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GUY'S HOSPITAL.

BLOW ON THE HEAD; EPILEPTIC FITS; TREPHINING; CURE.

(Under the care of Mr. COOPER FORSTER and Dr. WILKS.)

THE operation of trephining the skull is much less frequently performed now than formerly, but cases occasionally occur in which the indications for its performance are tolerably clear, and where the results have justified the means. As a rule, the operation is called for whenever coma, spasm, or any irritative signs due to a circumscribed lesion of the skull or immediately subjacent structures, continue, or endanger life, in spite of all other treatment; and the benefit that has often been derived by removing a piece of the skull to relieve intra-cranial pressure, or to elevate depressed bone, or to give exit to accumulated fluid, has shown that its effects are not merely negative. But although this extreme measure must only be a last resort, it will often be rendered nugatory by deferring it too long; so that, to be of any avail, the most favourable opportunity must be taken for its adoption. In the subjoined case it is clear that the benefit following the operation was *propter hoc*, for although the spasms gradually increased up to the time of operation, they at once almost entirely subsided after its performance. The *modus operandi* is not clear, but its effects are sufficiently certain to convince the most exacting.

For the following notes we are indebted to Mr. E. O. Reynolds, clinical clerk.

Francis M——, a boatman, aged thirty-nine, was admitted on April 24th, 1873, into Stephen ward, under Dr. Wilks, when the following notes were taken:—Nine years ago he received a blow on the lower part of the spine, after which he lost the use of his right leg for six weeks, but sensation remained perfect. He has had gonorrhœa with orchitis, but not syphilis; and he has always been a temperate man. Four months ago he received a blow on the top of his head, which stunned him, and produced a slight swelling, which still remains. He has felt queer in his head ever since, and for the last fortnight has suffered from severe pain over the injured region. Yesterday, whilst feeling worse and very drowsy, he suddenly fell down in a fit, having the eyes fixed and the mouth drawn towards the left side. In this fit he remained quite unconscious for five minutes, and on coming round went into another, in which condition he was admitted into the hospital. The patient, a strong, healthy-looking man, complains of great pain in his head, and, at intervals, of a general spasm of the muscles of the left side of the body, which lasts for a few minutes. The left forearm and leg feel numb and weak, but there does not appear to be any anæsthesia. He feels sick, but has not vomited. Skin cold and dry; pulse 96, strong; tongue dry and furred; bowels relaxed; urine albuminous, sp. gr. 1010; heart-sounds normal; pupils normal.

April 26th.—Has lost power over the whole of the left side of the body, not being able to raise either his left arm or leg from the bed. On raising the arm it does not drop at once, but is held spasmodically for a second, then drops some distance, and is again fixed for a short time before finally falling on the bed. Sensation appears everywhere perfect. He is unable to see as well with the left eye as with the right. There is a peculiar contraction of the muscles of the left side of the body, which appears at intervals of ten minutes or more. Mr. House, who saw him, ordered ten grains of iodide of potassium every four hours.

27th.—There have been two well-marked fits since yesterday. In the last he did not lose consciousness. Convulsions of the left side still continue. Vision in the left eye rather better. The iodide was increased to thirty grains.

28th.—Has had two fits this morning and one during the night. Suffers from great pain on the right side of the head, and an incision has been made through the swelling on that side down to the bone, and a small quantity of pus escaped. Temperature 98·4° F.

29th.—The patient was removed to a surgical ward under the care of Mr. Cooper Forster.

30th.—Still has fits frequently, and the spasm is less easily brought about. Temperature 96·8°; pulse 116, full and bounding.

May 1st.—Temperature 103°; pulse 130; respiration 32. Four or five fits every hour. As no relief of symptoms followed the incision, Mr. Cooper Forster trephined to the right of the median line, and removed a piece of bone, which was found to be rough and excavated on its external surface, of great density of structure, and of increased thickness, being three-eighths of an inch thick in one place, and a quarter of an inch thick in another.

2nd.—Temperature 104°; pulse 160, full and strong; tongue red and dry. Some pus at the bottom of the wound. Passed five pints of urine in the twenty-four hours; albuminous; urea 480 grains.

3rd.—Temperature 104°; pulse 140; tongue red and dry. The twitching of the muscles on the left side is not nearly so violent. Has had no fits, and is now able to raise left arm and leg.

4th.—Temperature 102°; pulse 140. Has an attack of erysipelas of the scalp and face. No fits.

5th.—Temperature 101·8°; pulse 128. Face still swollen. There is some hæmorrhage from the scalp wound, and the patient is unable to get any sleep.

6th.—Temperature 102°; pulse 132. Face more swollen; tongue furred and dry; leg and arm improving, but the patient still suffers from want of sleep.

12th.—Temperature normal; pulse 116. A small abscess on scalp opened this morning. Swelling and redness of head and scalp gone. There is a small piece of dead bone just in front of the trephine hole.

22nd.—A small incision was made into the scalp this morning, and some pus let out. Has no fits, but there is occasionally some slight twitching of the muscles on the left side. The leg and arm are improving fast.

30th.—Temperature normal; pulse 84. Got out of bed yesterday and this morning. Appetite good.

June 3rd.—The patient has had a good deal of bleeding from the nose. Gets up for a few hours every day.

10th.—Mr. Cooper Forster tried to remove the piece of dead bone from the scalp, but as it did not come away easily, he left it. Patient has suffered a good deal lately from diarrhœa and sickness.

13th.—Diarrhœa better. Still complains of a feeling of numbness on the left side of the body, but can now walk the length of the ward. There has been some discharge from the left ear, and he is deaf slightly on both sides, but worse on the left side.

16th.—Has been transferred again to the care of Dr. Wilks. There is some enlargement of the liver.

22nd.—Has still very slight attacks of twitching on the left side, which last for a minute or two, but has had no sign of fits since the operation. Continues to gain strength in left leg and arm. When he sits up for any length of time his feet become œdematous, and he continues to pass five pints of urine in the twenty-four hours, with a considerable quantity of albumen in it; sp. gr. 1009; no casts.

July 11th.—The attacks of twitching now come on very seldom, and only last for a second or two. Passes four pints of urine in twenty-four hours; albuminous, but no casts can be found. Can hear very well with the right ear, but is rather deaf in the left. Is able to use his left arm very well, and can walk about pretty comfortably, but still drags the left leg slightly. Faradisation is being applied to the leg and arm. There has not been the least sign of a fit since the operation.

MALE LOCK HOSPITAL.

OBSTINATE SERPIGINOUS ULCERATION CURED BY CONTINUOUS BATH AND THE INTERNAL ADMINISTRATION OF OPIUM.

(Under the care of Mr. COULSON.)

THE following case, for the notes of which we are indebted to Mr. Appleyard, house-surgeon, illustrates an excellent method of treating obstinate serpiginous chancres.

Great benefit was at once perceptible from the use of the continuous bath, for in a few days after its institution the sores, which had hitherto resisted all treatment, took on healthy action and began to heal. The special advantage of the continuous bath seems to be its constant detergent and diluent properties, by which all risk of poisoning the healthy adjacent tissues by the products of ulceration is avoided.

E. W——, twenty-nine years of age, a strong, healthy labourer, unmarried, was admitted on May 28th, 1872. Patient had suffered three times from gonorrhœa, but had no history and no signs of syphilis. He had connexion on 20th February, 1872, and seven days afterwards noticed a small excoriation at under part of sheath of the penis, close to the root. This began to ulcerate, and on the 5th March it formed a small chancre about the size of a sixpence. At the same time an enlarged gland appeared in left groin, which suppurated, and burst on March 28th. About April 1st the chancre at root of penis began to creep slowly along the left root of penis, towards dorsum, and fifteen days afterwards a small chancre appeared at upper and inner part of left thigh.

On admission the general state of health was good. At the under part of the sheath of the penis, close to the root, was a chancre about the size of a shilling, having a narrow strip running round the left root towards the dorsum. Base free from induration, margins soft, undermined, and dusky in colour. In the left groin was a sluggish sore, about the size of a florin, with ragged undermined edges and a greyish surface, and at the upper and inner part of the left thigh was a chancre similar in appearance to the one at the root of the penis, but smaller.

For three days poultices were applied to cleanse the surfaces of the sores, then antiseptic dressing for ten days. The latter seemed to increase the ulcerative action by retaining the pus, &c., for now the sore on the site of the bubo began to increase in size. Various simple antiseptic and detergent applications were tried in succession, but without improvement, and even the thorough application of Ricord's paste on two separate occasions failed to check the serpiginous ulceration. Internally, during this time, mineral acids and chinchona bark were administered, together with hydrate of chloral at bedtime for sleeplessness. Appetite good, and patient had ordinary diet, together with one pint of milk and one pint of porter daily. Thus two months were spent without any check to the serpiginous action.

July 26th.—The chancre at the under part of the root of the penis is healed, but the dorsal extension is slowly creeping towards the right root. The sore in the left groin has extended over the lower part of the left side of the abdomen and the upper part of the left thigh, in the form of a number of shallow grooves, with one edge undermined and spreading, but the other bevelled off and cicatrising; these grooves being separated from each other by strips of healthy skin, or by cicatrices of recently healed sores. The chancre at the inner side of the thigh has extended and blended with the others.

During the two months after July 26th the following remedies were tried, but without improvement—permanganate of potash lotion, tartrate of iron lotion, tincture of benzoin, nitrate of silver and lime-water lotion; internally iodide of potassium during the day, and one grain of opium at bedtime.

Oct. 1st.—The creeping character of all the sores still persists. The left half of the abdominal wall below the umbilicus is covered with cicatrices and grey, sluggishly ulcerating grooves. To-day the patient was placed under chloroform, and acid nitrate of mercury thoroughly applied to all the sores.

9th.—Creeping action still continues. Mr. Coulson ordered patient into a continuous warm hip-bath at a temperature of 98°F.

14th.—An abundant crop of miliaria rubra appeared on the thighs and buttocks. Removed from bath after four days' immersion.

20th.—All sores look healthy.

28th.—During the last week the sore at the root of the penis has extended round along the right side of the root, so as nearly to join the cicatrix at the under part.

Nov. 9th.—All sores still maintain a creeping character. Calomel to be sprinkled on all. Internally, iodide of potassium and cod-liver oil.

24th.—No improvement; appetite bad; sleepless.

30th.—All sores extending. During the last week the sore at root of penis has increased much in depth, so that now the suspensory ligament and the dorsal vessels of the penis are visible. Mr. Berkeley Hill advised the patient to be kept well under the influence of opium. Gave one grain every four hours in the form of pill.

Dec. 2nd.—Suspensory ligament gave way to-day. Continue the administration of opium.

7th.—When the penis is allowed to hang down the under part of pubic arch can be reached with the finger. The wound is large enough to allow the introduction of the ends of three fingers. Dose of opium increased to one grain and a half every four hours.

12th.—Mr. Coulson ordered patient to remain continually in a warm hip-bath at a temperature of 98° F., and at the same time to be kept under the influence of opium. The sores on the thigh and abdomen still retain a serpiginous character.

18th.—All sores appear stationary—pale and flabby; patient sleeps in bath. Appetite pretty good.

20th.—Sores on thigh and abdomen seem less in size; margins sloped, not undermined; granulations visible at bottom of sore at root of penis. Opium continued. Allowed to remain out of bath five hours.

21st.—Ordered to stay out of bath four hours in morning and four hours in evening.

24th.—All sores continue to heal.

27th.—All sores continue to heal, but the one at root of penis very slowly. Those on the abdomen and thigh are all healed, except a small one, about the size of a sixpence, on a level with the umbilicus.

Jan. 8th, 1873.—All sores healed, except the one at root of penis. Solid nitrate of silver applied; also on the 9th.

10th.—Sore filling up slowly. Solid nitrate of silver again applied.

11th.—Sore one inch deep.

13th.—Administration of opium stopped.

20th.—Progressing favourably. Applying lotion of nitrate of silver.

Feb. 4th.—Sore very superficial, and the size of a sixpence.

11th.—Sore completely healed.

Power of erection remains perfect, the contracted cicatricial tissue forming a good substitute for the suspensory ligament. A firm band of cicatricial tissue passes from the abdomen to the thigh, immediately over the femoral vessels; this at first prevented complete extension of the hip-joint, but after a few days' exercise he has regained perfect use.

BATH ROYAL UNITED HOSPITAL.

ANEURISM OF THE POSTERIOR TIBIAL ARTERY TREATED BY PRESSURE; RECOVERY.

(Under the care of Mr. STOCKWELL.)

THE following case furnishes an example of one of the difficulties not unfrequently met with in treating aneurism by pressure. The pain produced by the hard, unresisting pad of a tourniquet, or even by the pressure of the fingers, is to many almost unbearable; and, in fact, sometimes sets up a certain amount of constitutional reaction. It is, in fact, the great objection to this method of treatment that the pain produced by the constant pressure prevents sleep, and induces great irritability. The device by which these annoyances were obviated, and which is detailed below, must commend itself by the simplicity of its construction and application, and the success of its results.

For the following notes we are indebted to Mr. Culliford Hopkins.

William P——, aged thirty, a railway porter, was admitted into the hospital on November 3rd, 1872, suffering from aneurism of the posterior tibial artery of the left leg. He was a strong, healthy man, height about six feet, and had had no previous illness.

He first noticed a swelling in the calf of the left leg a fortnight previous to admission; was not aware that it pulsated until his attention was called to it by a medical man whom he consulted on account of its increasing in size. The nature of the tumour was pointed out to him, and he was advised to come into the hospital. He has continuous pain in the leg, and numbness of the foot. He attributes the

tumour to his constantly having to stoop to get under railway trucks. On examination, a pulsating tumour is found about the size of an egg, a little below the left popliteal space. Pressure on the femoral artery stops the pulsation immediately.

Two tourniquets were applied, a spiral one to the popliteal, and a Signorini's to the femoral, to be used alternately if necessary. The leg was bandaged and raised; the pulsation ceased immediately. To have twenty grains of chloral at night.

Nov. 4th.—Had a restless night, owing to pain in knee and foot from pressure of the tourniquet, especially the one applied to the popliteal, which was discontinued, the one applied to the femoral in Scarpa's triangle being solely relied on. Chloral to be repeated if necessary.

5th.—At 2 A.M. he was very restless, in a good deal of pain, and said he could not keep the instrument on as it was too tight. Had half a grain of morphia in a hypodermic injection. He soon fell off to sleep, and slept till 6 A.M. Later in the day he became more restless, and could not bear the tourniquet on longer than half an hour. Injection to be repeated, and tourniquet to be shifted when necessary. Temperature 100°; pulse 104.

6th.—Had a bad night; pain from pressure of tourniquet almost unbearable. Pulsation, if anything, increased. Injection repeated. Temperature 100°; pulse 100.

7th.—Irritation and pain so great that he will not keep it on any longer. Temperature 100·8°; pulse 100. It was decided that, if he was no better, and the tumour increased rapidly, the femoral should be tied. As it was thought that he might bear a pad that would slightly yield without interfering with the necessary pressure, an india-rubber one was made, filled with water, and fixed to a Signorini's tourniquet.

8th.—At 8 P.M. the tourniquet with the water pad was applied to the femoral, and at 12 o'clock he was found much easier, and the pulsation had ceased. Temperature 101°; pulse 112.

9th.—Had a very good night; free from pain; no pulsation; tourniquet had not been removed. Temperature 99°; pulse 90.

10th.—No pulsation; tumour less; tourniquet still to be kept on. Temperature 98°; pulse 88.

11th.—Pulsation entirely ceased; tourniquet to be discontinued; leg to be bandaged. Temperature 98·4°; pulse 80.

17th.—Up to this time pulsation had not returned; he complained of slight numbness in leg and foot; tumour much smaller and harder. To get up and walk about.

27th.—Can walk without difficulty, though he still complains of slight numbness. The size of the aneurism is that of a small hazel-nut and quite hard. Discharged cured.

Remarks.—The chief point of interest in this case is the success and immediate relief afforded to the patient by substituting for the ordinary unyielding pad of a tourniquet an india-rubber one filled with water. It also has this advantage, that the same amount of pressure is secured, but more equally distributed, and it does not cause excoriation of the skin, which an ordinary one would do if kept on in one spot for any length of time. No originality is claimed for having used the water-pad, as it has probably been used before; but, if not, it may be the means of saving a patient from the necessity of an operation, as it certainly did in this case.

Reviews and Notices of Books.

The Medical and Surgical History of the War of the Rebellion, 1861–65. Prepared in accordance with Acts of Congress, under the direction of Surgeon-General J. K. BARNES, United States Army. Part I. Two Vols. 4to. Washington. 1870.

THE volumes above-named, although bearing the date of 1870 on their title-pages, have only recently been received in this country. They constitute the first instalment of the medical and surgical history of the great civil war which between the years 1861 and 1865 made the name of the *United States* of America a misnomer, which not only produced unfathomable misery over the regions where the struggle raged, but filled everyone in Europe interested in the progress of civilisation with dismay. It is well that no benefit which can be gathered out of the wide-spread suffering caused by the war should be lost. We do not forget that slavery disappeared while the war was in progress, and that many have maintained, so little ground was there for hoping it would be broken up by any other means, that the war itself was not too great a price to pay for ensuring the removal of this degrading institution. But if, further, the experience gained in the hospitals can be utilised for the improvement of medical and surgical knowledge, and thus for the future benefit of mankind, an additional compensation will be made for the calamities which the war occasioned. A study of this first part of the medical and surgical history of the war leads us to hope that we may reasonably expect this advantage will accrue; that our knowledge of the treatment of the diseases and injuries to which armies are subject in time of war will be extended, and the science of healing in general be advanced, and that thus, as so often has occurred before, out of evil good will come.

The medical volume is the more bulky of the two volumes before us. It comprises upwards of 1100 quarto pages, and has been prepared for publication by Dr. Woodward of the United States Army. As stated in the introduction, "it consists of a series of statistical tables presenting a summary review of the facts embodied in the monthly reports made to the Surgeon-General with regard to the sickness of the army, the deaths, and discharges from the service." There is also an Appendix at the end of the volume, composed of extracts from the official reports of medical directors, and other army medical officers received during the war by the Surgeon-General relative to medical events and proceedings, but exclusive of strictly professional matters. These reports serve to explain and illustrate the movements of the field hospitals, and the administrative arrangements carried out for the care of the sick and wounded in the different commands.

An immense amount of statistical information bearing on the prevalence of camp diseases and their results among the troops during the war, together with the special influences of the several geographical regions of the country over which the war extended, will be available for future research in the tables contained in this volume. The discussion of the causes and progress of the particular diseases shown in them, and of the mortality and discharges for disability which they led to, are reserved for the second part, which has yet to appear; for which part are also reserved the histories of special cases, accounts of pathological investigations, records of the work done in the Army Medical Museum, and extracts from reports made on particular classes of disease from time to time to the Surgeon-General. The tables which fill up the greatest part of this volume, therefore, are only suitable for separate reference, but a general summary of them shows that no less than 5,825,480 cases of disease and injury have been tabulated from the hospital returns among the white troops, and 629,354 among the coloured troops, during the period of the war. Surely these figures sufficiently indicate what an important part the hospital arrangements must form in the administrative management of a great war; how grave the concerns which devolve on the medical departments of armies and their officers. The total number of deaths during the war is put down as 304,369. They are distributed as follows:—Died of disease, 186,216; of wounds and injuries, 49,205; killed in battle, 44,238; suicidal, homicidal, and executed, 526; from causes unknown, 24,184. Excluding those from unknown causes, there was then one death from violence to

every two deaths from disease. This shows in the aggregate a considerably less proportionate mortality from disease than has been experienced in most prolonged wars hitherto. The proportion among the British troops in the Crimean war was nearly four deaths from disease to one from injury.

The surgical volume will be found to be of most interest to the general reader from the nature of its contents. It has been prepared and edited by Dr. Otis, already favourably known by his two excellent monographs on "Amputations at the Hip-joint in Military Surgery," published in 1867, and on "Excisions of the Head of the Femur for Gunshot Injury," published in 1869. The surgical volume consists of 800 pages, and is illustrated by some well-executed lithographic plates, together with a large number of woodcuts interspersed through the text. It comprises some introductory remarks and references, a chronological summary of the several engagements and battles during the war, and five chapters on wounds and injuries of the head, face, neck, spine, and chest. The editor remarks in his preface, that he had hoped to complete the subject of injuries of the head and trunk in this first part, but, from want of space, has found it necessary to reserve many of the general observations on the injuries of the head, spine, and bloodvessels, and to place wounds and injuries of the abdomen and pelvis in the succeeding surgical volume.

The list of engagements and battles which occurred during the war occupies more than 100 pages of the work. As many as 2258 are enumerated. A glance through the list shows, what might be of course expected, that the battles in which the casualties reached high numbers form only a minority among this vast number. The engagements are all shown under their respective dates and localities. The Union troops engaged are also recorded, and the losses in killed, wounded, and missing on both sides, Union and Confederate, are tabulated in separate columns.

The chapters which follow on special wounds and injuries are so voluminous that it is impossible to enumerate, much less to analyse, their contents in this brief notice of the work. Little more can be attempted now than to furnish a general idea of the manner in which the subjects are discussed; a particular account of the subjects themselves must be left to some future opportunity. The general plan adopted by Dr. Otis is as follows:—The injuries comprehended under each of the regional headings embraced in this volume are collected and considered separately under incised, punctured, miscellaneous, and gunshot wounds and injuries. Subsequently the operations performed in each region and their results are tabulated and discussed. Under each of the principal divisions above noted are classified a series of subdivisions, including cases marked by special features of injury or special complications, varying, of course, in their nature, according to the particular region involved. The numbers included in the tables in which these varieties of the regional injuries are shown are often immense. Thus, in table 7, page 308, are shown the results of 12,980 injuries of the head, subdivided according to their respective varieties; in table 14, page 382, of 9815 injuries of the face; in table 19, page 452, of 642 gunshot injuries of vertebræ; in table 24, page 599, of 20,607 cases of wounds and injuries of the chest, similarly subdivided and classified. The numbers of the particular injuries in the parts of the body discussed in this volume will not surprise the reader, however, when the total number of the wounds and injuries which took place during the war is considered. A table in the introduction, page 25, states that the number of cases of wounds, accidents, and injuries reported to the Surgeon-General's office at Washington during the war amounted to 408,072; the gunshot wounds alone amounting to 235,585 of this number. The mere clerical labour in dealing with such numbers must have been enormous, but the time, industry, and scientific research which must have been devoted to tracing out and properly distributing the individual cases are beyond calculation, all the more because the tables in which Dr. Otis has shown the wounds and injuries which he has classified differ very materially from the forms of the returns in which they were originally transmitted from the field hospitals to the Surgeon-General's office at Washington. In some instances of special forms of injury, and particular surgical operations, Dr. Otis not only describes the cases which occurred during the United States' war, but collects all the instances of similar injuries and operations he has been able to find recorded in ancient as well as in modern works, travelling through a vast field of literature for the purpose. The industry displayed by the editor in this direction is marvellous. From Hippocrates and Celsus down to the latest writers on the surgery of the Franco-German war, all are consulted and referred to. The volume overflows with references of this description. Indeed, so far as it has gone, the work may be regarded not merely as a history of the surgery of the war in the United States, but as an abstract of the recorded surgical experience of all the wars which preceded it, and, so far as it has yet been published, of the experience also gained in the wars which have as yet succeeded it.

But it is necessary to bring this notice to an end. The mass of materials collected in the first part of the medical and surgical history of the United States' war can only be thoroughly digested by prolonged and patient investigation; but even a passing examination of the two volumes will serve to confirm Surgeon-General Barnes's expression of the zeal and intelligence which Drs. Woodward and Otis have exhibited in preparing their contents for publication. Conspicuous also is the liberality of the United States Government, which has enabled the surgical department of the army to put forth a work of so costly a description as the present. The typography, the numerous lithographic plates and woodcuts with which the letterpress is illustrated, and the general tone of the two volumes, are considerably above average merit.

We have noticed one thing with regret in turning over the pages of these magnificent volumes. Although the subject is introduced into a footnote, it will not escape the reader's attention that Dr. Otis criticises with some little asperity certain statements made by Professor Longmore in regard to the American system of classification. Into the merits of the question we do not pretend to enter, but this much we must say: The interests of the medical services and of medical officers are the same all the world over; and, as we happen to know, no one has more heartily paid his tribute of admiration to the energy, ability, and devotion displayed by the medical officers of the United States army than the Professor of Military Surgery in this country. It is scarcely likely, therefore, that he would wittingly have done anything to give umbrage to members of a service he so much respected.

A General System of Descriptive and Analytical Botany. Translated from the French of E. LE MAOUT, M.D., and J. DECAISNE, by Mrs. HOOKER; the Orders arranged after the method followed in the Universities and Schools of Great Britain, with Appendix on the Natural Method, Synopsis of the Orders, &c., by J. D. HOOKER, C.B., F.R.S. In One Volume, with 5500 Woodcuts. London: Longmans, Green, and Co.

ALTHOUGH we have, as a rule, a prejudice against the adoption of translations as text-books or standard works of reference, we must confess that in this translation of Decaisne's Systematic Botany every ground of objection has been removed by the admirable manner in which the

work has been adapted to English habits of thought and expression. The clearness and precision of definition so characteristic of French writers have been retained without any sacrifice of that conciseness of expression and condensed style of treatment to which we are so accustomed in the best of our own authors. Apart from the intrinsic merit of the work itself, there can be no doubt that the careful and accurate delineation of plants with which this volume is so sumptuously enriched has had some share in its reproduction in this country; and had there been no other object, we must have acknowledged the work to be a perfect botanical encyclopædia of illustration, remarkable alike for its scientific accuracy, completeness, and originality, as well as for its artistic execution. These drawings are the result, as the preface tells us, of a lifetime of labour and investigation on the part of M. Decaisne, one of the authors.

But the book is by no means an illustrated popular treatise; it is a complete and comprehensive account of the natural orders and cohorts under which the vegetable kingdom is now ranged by our best and most modern authorities, preceded by a brief, but extremely lucid, introduction to the study of systematic botany, in which all the terms employed are richly illustrated. In the account of the natural orders the book is by no means a mere translation; the orders have been rearranged on the system of De Candolle, and a number of orders have been added to include the whole vegetable kingdom. The method of arrangement adopted in the "Genera Plantarum" of Hooker and Bentley, now in course of publication, has been followed and elucidated. The volume concludes with a valuable and complete synopsis of the classes, cohorts, and orders described in the body of the work compiled by the English editor, Dr. Hooker, grouped in accordance with the principles adopted in the "Genera Plantarum."

It will thus be evident that a large portion of the work is entirely new. The size adopted affords convenient scope for the 5500 figures with which it is illustrated, and the large type and general execution are highly creditable to the publishers. Whether as a book of general reference, a text-book for the student, or as a complete manual of the most modern systems of classification, we do not hesitate to recommend this work as a very valuable addition to the botanical library. It would, however, have added little to the bulk, and much to the value of the work as a book of reference, if a complete list of the genera had been given in small type under each order. Although the existing state of the "Genera Plantarum" would not at present permit such a course, there is no doubt that a large reduction in the number of the orders will be hailed as a great boon in some future edition.

EPIDEMIC TYPHOID RESULTING FROM AN INTERMITTENT WATER-SUPPLY.

IT will be remembered that in May last Dr. Blaxall, one of Mr. Simon's staff, was sent to prosecute a sanitary inquiry at Sherborne, in consequence of the prevalence of both endemic and epidemic typhoid. His report, now published, on enteric fever in the town of Sherborne, is unusually interesting, as it shows how clearly the chief epidemics of enteric fever may be traced to contamination of the drinking water by sewer air, and fully bears out the views recently ventilated by Dr. Carpenter as to the dangers of an intermitting water-supply. Dr. Blaxall bases his opinion, that the epidemic this spring was caused by persons drinking of water contaminated with sewer air, on the following considerations:—First, the sudden appearance of seventy-three fresh cases in the first week of March (the average weekly number for the three previous months having been two and a quarter)—viz., after the Board of Health water had been shut off every night during February; second, the gradual diminution of cases after the first week in March, during which month the water was not turned off at nights; and, third, the manner in which the cases were scattered about the town; but, mainly, the far greater proportion of cases occurring amongst persons supplied with the Board of Health water than amongst those who derived their water from other sources. The danger of an intermitting water-supply here exemplified is so important, and yet so little appreciated, that we consider the following details, taken from the above-mentioned report, will well repay a careful perusal.

Sherborne, according to the last census, had a population of 6041. In 1867 it was visited by an epidemic of enteric fever, which caused six deaths; since then enteric fever has continued endemic, doubtless owing to the defective means for the removal of excreta, and to the water having been contaminated from time to time by sewage or sewer air. The accompanying table shows the progress of the recent epidemic, which caused 13 deaths in the first four months of this year, and aids much in elucidating its cause.

Number of New Cases of Enteric Fever.

In the month of	December, 1872	2
,,	January, 1873	12
,,	February, 1873	15
In the week ending	March 8th	73
,,	March 15th	45
,,	March 22nd.....	28
,,	March 29th.....	17
,,	April 5th	17
,,	April 12th	23
,,	April 19th	2

It will be observed that rather numerous cases occurred in January and February; that in the first week of March there was a sudden and great increase, and during the remainder of the month a gradual diminution.

Dr. Blaxall made a careful inquiry into all the conditions likely to affect the health of the community, particularly with respect to the supply of articles of general consumption. The influence of milk in the distribution could be excluded, but respecting the circumstances of the water-supply the following facts were ascertained. During December and January last the Board of Health water was frequently shut off at a point slightly above the houses on the highest level of the town, and the same thing was done during every night in February. It is known that when the water was thus shut off there were certain delivery-pipes up which a rush of air occurred immediately the tap was unscrewed. Now in many instances the pipes open with taps into watercloset pans, there being a frequent absence of service-cisterns. At night, after the closet had been used, the tap would be turned on for the admission of water; none flowing, the tap would frequently not be turned off again, thus a direct passage into the water mains would be left patent. Even this accidental leaving of the tap open was not necessary, as many taps, being broken, permitted a continuous flow of water during the day, but at night, no water being present, were uninterruptedly free to admit sewer air. Through these openings, when water did not flow, air commonly passed from the closet-pan to the water-pipe, the system of pipes for the water-supply becoming, in fact, the ventilating channels for the closet-pans; and, if a pan happened to be full, its contents might even be sucked into the water-pipe. In January and February, when at least twenty-seven cases of enteric fever were in the town, closet-pans thus circumstanced were doubtless in some instances tainted with the specific contagium; some of them may even have been filled with the excreta of fever patients. The sewer air which entered the pipes at night, when the water was turned off, would be driven forward in the morning, when the water, turned on again after washing the pipe-surfaces upon which foul air had been resting for hours, could hardly (even supposing no actual excrement to have got into the pipes) have failed to contain fever

contagium; and this water was destined to be drunk by the people.

The part played by the Board of Health water in the recent epidemic is tolerably evident from the adjoining tabular statement:—

Houses in Sherborne, 1010 ...	780 supplied with Board of Health water; 148, or 19 per cent., visited by fever.	230 supplied with other water; 13, or 5·6 per cent., visited by fever.
Persons attacked between Dec. 1 and May 10 ...	In the 780 houses, 226; or 29 cases per 100 houses.	In the 230 houses, 17; or 7·4 ditto.
Persons attacked in the first fortnight of March	In the 780 houses, 111; or 14·2 cases per 100 houses.	In the 230 houses, 7; or 3 ditto.

Though the origin of the Sherborne epidemic, which is so evident from the above history, must be far from an uncommon element in the production of urban typhoid, yet we believe Dr. Blaxall has been the first to demonstrate it in practice; and, though almost despairing, we are encouraged to hope that this danger from an intermitting water-supply may startle the metropolitan authorities into providing that flood which Sir Wm. Fergusson calculates would threaten to run the Thames dry.

Whether or not our ideal sanitary reform—a constant water-supply for London—will result from this fresh knowledge of the danger its neglect entails, we must ever be grateful to those who have added to our sanitary science by their careful deductions from practice and theory.

SECOND SESSION OF THE FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE second session of the above Association was opened on Thursday, the 21st inst., in the large public hall of the Hotel de Ville of Lyons. The meeting was presided over by M. Quatrefages, the well-known ethnologist and member of the French Institute. On his right were seated the Prefect of the Department; M. Ducros, the Rector of the Academy of Lyons; M. de la Chavanne, and M. Gariel, Professor Agrégé of the Paris School of Medicine. On his left were M. Platon, President of the Lyons Branch of the Association; M. Wurtz, Dean of the Paris School of Medicine; and M. Masson, Treasurer of the Society. There were upwards of six hundred members in attendance, and at this opening meeting several ladies in elegant attire were present. Among the assembly in the hall were to be noticed Madame Clemence Royer, deputed by the Ethnographic Society of Paris; MM. Baillon and Broca, Professors at the Paris School of Medicine; Friedel, Professor at the Normal School of Paris; Cornu, of the Polytechnic School; Carl Vogt, of Geneva; Smithson, of Washington, &c. &c.

The Prefect of the Department inaugurated the proceedings by a few words, in which he greeted all those eminent representatives of science, who had quitted their laborious occupations in order to gather in Lyons, and bade them welcome to the city.

M. Quatrefages then rose to deliver the address of the day. He alluded to the fact that both the preceding Municipal Council of Lyons and the present one, differing in political opinions, had been unanimous in voting funds for the reception of the Association, and he made this fact the starting point of much eloquent discourse, in which he declared that amidst the conflicting parties in France one standard should be planted, around which they should all rally, that of "Science and the love of their country." Science of irreconcilable enemies made faithful allies, and perhaps devoted friends. Love of truth was love of science. Love of country was love of science, since science forged arms for the conflicts of the present and the future. The middle ages could be compared to ours. There was then a rush after science, and amidst so many conquests he would mention foremost that of a world—Columbus's conquest. The age of Leo X. and Francis I. was that of letters—the one which had just elapsed was that of science. Referring to the practical applications of science, he said that they did not make science descend from its pristine elevation. The sun did not lose its heat or light by ripening the fruit after having opened the blossom. Application was an element of scientific progress; it incessantly put new problems before pure science. Science had become general. It accompanied us in our homes, and was to be found at our hearth, at our table, and everywhere. Letters had been obliged to receive science kindly. Sentiment and imagination were not threatened with death by such men as Kepler, Pascal, Linnæus, Buffon, and Humboldt. Poets, when they knew science better, would seek therein fresh inspirations. Homer, in his divine "Iliad," could talk of the clavicle and scapula. The services rendered by *savants* during the recent war were then enumerated. The services which they render as jurors in universal exhibitions were next mentioned: silks and telescopes, jewels and crystals, could not be judged of without the help of *savants*. Coming to the most important feature of his discourse, M. Quatrefages said that when exhibitions closed, *savants* should not be dismissed and allowed to retire to their studies. Governments were every day in need of the lights of science. The departments of the army, the navy, of agriculture, commerce, industry, &c., were in daily want of proper scientific advice, and he knew the day would come when every great administration would be provided with a consultative committee, especially composed of *savants*. Thus many grievous faults would be avoided. In order to produce this it was necessary that science should be universally understood and accepted, and this was the primary object of the French Association. It addressed itself, therefore, to all classes, and tended to the prosperity of the country. After a few more passages, the orator concluded with these eloquent words:—"We must despise the arms of ignorance and sloth, and appeal to the future. Let us persevere, and with the good of our country for our object, science for means, the past for encouragement, and the future for hope, let us work on, forgetful of nothing."

M. Zariel and M. Masson terminated the proceedings of the meeting by their report on the future plans of the Association, as well as on its financial condition, which it appears is very satisfactory.

In the evening a large attendance gathered in the Exchange Hall to listen to a most interesting discourse by Carl Vogt, on the character of volcanoes. They were not, he contended, a tearing up of the terrestrial crust due to the existence of a central focus, but the result of chemical reactions going on at only a short distance beneath the surface of the earth. These views of Carl Vogt have already been so extensively made public that it will be only necessary to refer here to his very successful and interesting communication.

At the general meeting, which took place on the Friday, amongst other interesting communications, that of Dr. Blanc on the chief cause of transmission of cholera attracted much attention. Of course, he referred to its transmission through water, and insisted on the necessity of using pure water or disinfecting that in use.

In the section of Political Economy, M. Cambefort spoke at great length on the coal-pits of England, Germany, and France, and, considering the causes of the present rise in the price of coals, drew the attention of the assembly to the necessity of new laws being voted, by which the duties on coals would be diminished, especially in the regional departments of the Loire.

On Saturday an excursion took place to Solutré, near Macon, for the purpose of visiting a prehistoric station. The excursionists numbered about 150. After partaking of lunch provided by the authorities of Macon at the railway buffet, the party reached Solutré at about 1 o'clock, and Professor Broca described the many interesting specimens contained in the cavern. A grand dinner had been prepared on the spot, hospitably provided for the excursionists by M. Guimet, a wealthy Lyonese manufacturer. Many toasts were drunk, and the excursion ended as it had begun—most satisfactorily and happily.

SOME practical suggestions, drawn up by Dr. Andrew Smart, F.R.C.P., have been issued for the suburban districts of Edinburgh by the local authority, in view of the advent of cholera in this country.

THE LANCET.

LONDON: SATURDAY, AUGUST 30, 1873.

A FORTNIGHT since we devoted some portion of our space to a critical examination of the condition and ends of the British Medical Association. In that article we pointed out how the Association had done great things for the social status and welfare of the profession, how it had become a great power in the State, and how in all probability its future career would be both brilliant and useful. We ventured, however, to remark that hitherto its political influence had not been great, and that its present constitution was not fitted for expressing the political views of the vast number of members which it has enrolled. We also ventured to point out that "commercial enterprise" was not one of the original objects of its founder, and we were bold enough to say that we considered it unwise of the Council to allow the *whole* of the large income at their disposal to be sunk annually in an absorbent speculation, which hitherto has paid no money dividend to science. The "commercial enterprise" has replied to our remarks in an article which we do not believe is representative of the opinion or the mode of thought of the great majority of gentlemen who constitute the British Medical Association—in an article which is characteristic in tone, and which, as might be expected, savours more of commerce than of science. From the tone of this reply we cannot help thinking that our remarks were too laudatory to suit its commercial purposes. This reply so twists and perverts what we really said that it seems to be an answer, not to the article which we wrote, but to such an article as the writer in the *British Medical Journal*, doubtless, wishes that we had written. The article entitled "Our Critics" is divisible into several sections. First, it deals with the opinion of the daily press, which it says "is satisfactory enough," and then continues: "It is, of course, to our medical contemporaries that we must turn for the dark side of the picture. They had an excellent opportunity of throwing in their favourite shadow against the broad light which illuminates the picture." The honest reader has but to scan our columns to see that we drew anything but a dark picture of the Association, and that we were, if anything, lavish in our praises. That there are shadows (as our contemporary suggests) we will not attempt to deny; that the shadow is a favourite one, except with the few which it favours, is not true, and that the shadow is of our making is untrue likewise. Speaking of our article the writer says: "The union, the strength, the cordiality, the great scientific gathering, are facts; but they should in his view represent if possible mere dead accumulations of unused force. The Association is strong, but it should not use its force." This is an entire misrepresentation of our views, and we distinctly deny that we said anything of the kind. What we did say, and what we repeat now, is: "The Council of the Association wield a great power—a power which, if rightly employed, is capable of furthering, no one can say how extensively, the noblest ends and aims of the medical profession." The writer next defends the Association from our charge that its constitution is not of a kind to serve political ends. "The Association has achieved great things for medical reform years since," says the writer, alluding, we presume, to the Medical Act of 1858, with which the Provincial Medical Association had some not very definite relations. This was the Act which, in the words of Dr. QUAIN, gave us "reciprocity of practice," but failed to obtain uniformity of qualification—the Act of which *The Times*, in one of its *laudatory* leaders, says left us "the vicious system of the competing corporations" which "can scarcely fail to be the parent of many abuses." In addition to this, the Association "has procured one warrant, ten years since, for the amelioration of the pay and relative rank of officers of the army and navy." This is the political history of the first forty-one years of the British Medical Association. The rest is "*in futuro*"; and the writer in the *Journal* does not, unfortunately, seem to see any difference between political agitation and accomplished political facts. The political business of the Association is conducted too much by small committees, who "have power to add" convenient persons, possibly, "to their numbers." The leaders of the profession, like Sir JAMES PAGET, have no time to devote to politics; and, unless some vital point is at stake, they are content to leave the agitation and the talk to those whose purposes are mainly served thereby.

We suggested that the Association should reserve some considerable portion of its funds for the purposes mentioned by Dr. BURDON-SANDERSON and Dr. SIBSON; but our contemporary doubts "whether, while the rich corporations are in existence, the summons to support such institutions" (as a physiological laboratory) "should be addressed solely to an Association such as this." The writer by this suggests that the rich corporations do nothing. What are the facts? The College of Physicians maintains a house in which many excellent lectures are given yearly, and in which is a valuable library open to its fellows and members. The College of Surgeons does the same; and, in addition, helps to support the finest anatomical museum in the world. The Medico-Chirurgical Society maintains a place for its fellows to meet in, publishes an expensive and valuable volume of selected monographs, and has a library which has done more than one can say for medical education and advancement. The other Medical Societies also publish their Transactions and encourage various branches of science by their funds. The Apothecaries' Company has, "in days gone by," done good work; but we must remember that it is a trading corporation engaged "in commercial enterprise," and has avowedly no higher aims. It may be remarked, however, that its shareholders receive substantial dividends.

The writer next goes on to say that, in addition to the expenses of the *Journal*, "the whole executive and establishment expenses are paid" out of the annual subscription. It is to be regretted that in the balance-sheet published the executive account and the *Journal* account are not kept separate, and it is difficult to say how much of the time of the salaried officials is employed on *Journal* work. Judging

as well as we can, we do not think it is likely that the executive and establishment expenses would very much exceed, if they equal, the much-debated "petty cash." "That some surplus may shortly be expected we believe," says our contemporary. We wish we could believe so too, but with an unpaid deficit of £250 on the London meeting it is surely early to talk of surpluses.

In conclusion, it says—"But if there be any large number of members desirous of bestowing funds upon these"—scientific—"purposes, it will not be necessary, as our contemporaries suggest"—we never suggested such a thing,—"to raise the subscription to £2 10s. annually. ..... A half-crown annually added to the annual subscription to the Association, as a contribution to a scientific fund, would give an annual income of £500 for the purpose, which would certainly be enough to begin with." We are thankful that Sir CHARLES HASTINGS cannot read these words. Twenty-one shillings to "commercial enterprise," and two-and-sixpence for science, which is put on the footing of an "extra" at a boarding-school! We feel inclined to exclaim with Prince Henry—"Oh, monstrous! But one halfpenny-worth of bread to this intolerable deal of sack!"

THE Ashantee Expedition is an undertaking which depends in a far greater degree upon sanitary considerations than almost any expedition that has taken place since the Walcheren. It is a question, first of all, whether it should be undertaken at all; whether the attempt to deal a heavy blow at the power and prestige of the Ashantees be not altogether impracticable. Now, it is no good concealing the fact that the risks to life, as far as Europeans are concerned, are great. And, of course, if the nation be content to hold their present positions on the Gold Coast on sufferance, and to assume a protectorate which is nominal only and not real, rather than encounter these risks, there is an end of the matter. In that case it would be better, we imagine, to wipe out our connexion with the place by withdrawing from it altogether. But while we do not conceal from ourselves the dangers and difficulties of the undertaking, we do not think the obstacles to success insuperable by any means. The country is unhealthy and malarious to a degree; and to attempt to penetrate inwards would surely be attended at certain seasons with disastrous results, and with risk, probably, at any season. We know the character of the climate in the vicinity of the seaboard; but we do not sufficiently know that of the interior. As in the case of Abyssinia, it may be that the unhealthy regions are those of the bush and swampy grounds; and that when these have once been passed the main difficulties will have been surmounted. The presence of large timber, which replaces the stunted bush, in the interior, and the elevation of the land towards Coomassie, where it is decidedly hilly, are indications of a different state of the surface-soil and subsoil. Success will depend upon the selection of the right time for the starting of the expedition, the skill with which it is planned, and the rapidity with which it is carried into execution. If the thing is to be done, it must be done, moreover, without regard to expense. Let us suppose the design to be for a force, armed with snider and light mountain guns, to penetrate into the interior as far as Coomassie. Every arrangement should be perfected before the arrival of the force. The route should be surveyed, the various halting places carefully selected, rude huts thrown up by the natives ready for the shelter of the troops, and roads through the thick stunted bush should be cut for their passage wherever necessary. It may be practicable, with a native force, to lodge a few stores and provisions at the halting places in anticipation of the arrival of the European troops. In any case the commissariat and transport arrangements will have to be thoroughly organised, especially as no animal transport exists, and everything has to be conveyed on the heads of natives, who have to penetrate the bush in many situations in single file. When these arrangements have been perfected, as we have said, it will be time enough for the arrival of the European troops, who should disembark and proceed at once to their work, making their marches from halting place to halting place until they have arrived at Coomassie; and, supposing them victorious, there should still be no delay, beyond what was absolutely essential, until the whole European force again embarked and steamed to healthier latitudes. The expedition may, for some part of the route, be likened to the march of a force under fire, in which case every commander would concentrate his efforts in pushing on. The disastrous experience of previous expeditions cannot be taken as an index for the present. They either started at the wrong season, were badly organised and supplied, or penetrated sufficiently far to incur all the risks to health of the worst places, without ascertaining if things were better further on. We assume that December would be selected as the most favourable period for starting, and that every effort would be made to bring the campaign to a termination within a period of two months. As to the composition of the force, it is abundantly clear that it must mainly consist of coloured troops, to which the European force would simply act as the nucleus and backbone. And we suppose every military surgeon would concur with us in thinking that this latter force should be exclusively composed of soldiers in vigorous health, and that not a man should be allowed to take part in such an expedition who did not possess the requisite amount of physical energy and training.

As regards supplies, weight and bulk are great obstacles in an expedition of this kind. It will be necessary, in addition to local supplies, to forward preserved meats and vegetables from this country. On the march tea is easily prepared, and might be adopted, as in the case of the Red River expedition, as the ordinary beverage, supplemented and varied by the issue of tins of essence of coffee and milk, or cocoa and milk. There should be no regular ration of spirit, but this should be issued occasionally on the advice of the medical officers. Besides preserved meats and vegetables, the rations should include biscuit, cheese, and German sausage; and supplies of Swiss milk should be forwarded for the use of the sick. Fever and dysentery are the two diseases to be chiefly feared, for small-pox is more likely to prove dangerous to our enemies than to ourselves. Quinine must therefore be regarded as an article of diet rather than as a medicine; and to guard against diarrhœa the use of water laden with vegetable débris must be scrupulously

avoided. Condensed water should be exclusively used wherever obtainable, and supplies could be condensed on board the off-lying steamers and forwarded into the interior; and if communication with the base of operations were kept open, supplies of all kinds could be sent on to some of the different halting-places beforehand by a properly organised system of native transport. The native carriers swarm like bees; and the conveyance of a few stores could be readily accomplished, if we could trust a native force to guard them against the raids of the enemy. When water has to be obtained from river sources or from the subsoil, by aid of NORTON'S tubular pumps, for example, it must be boiled before use.

Lastly, as regards clothing and shelter. The first should mainly consist of serge, and be at the same time loose, warm, and free; and every black soldier should carry a good stout blanket with him. The last might be obtained by the use of the *tente d'abri*, supplemented by waterproof bottoms. It is important, in so malarious a country, to avoid chills as far as possible, and to guard against the night air from above and the emanations from the soil below. The provision of huts at the halting-places *en route* would meet these requirements.

We speak with a sense of responsibility when we express our belief that an expedition, if properly conducted, might be undertaken with a good prospect of success; and that it need not be attended with the great expenditure of life that so many persons prophesy.

THOUGH we have no hesitation in blaming the druggist, in the case of delirium tremens at Ramsgate, for refusing to dispense a prescription which has become familiar to medical men of late years, it may not be amiss to specify more particularly the faults of his conduct. No sensible practitioner would feel otherwise than obliged to an intelligent druggist for taking reasonable precautions against supplying a customer with medicine in really poisonous quantities, even when prescribed by himself. There are few things more marvellous than the general accuracy of medical prescriptions. It is not an unreasonable supposition that nearly a quarter of a million of patients are prescribed for daily, in sickly seasons of the year, by medical men. And while the extreme rarity with which errors occur will be admitted by druggists, we, on our side, and in passing, admit with readiness the wonderful accuracy with which medicines are dispensed. Still, infallibility does not attach even to medical men; and it is a comfort to them to know that their prescriptions are generally checked by informed dispensers, who know the limits of safe prescription, and who will take a little trouble quietly to ascertain the intention of a practitioner in relation to any prescription which appears to them unusual or unsafe. If the newspaper reports of the inquest at Ramsgate are to be relied on, the druggist not only refused to dispense the prescription, but commented on it in a perfectly unwarrantable manner to the messenger, who was of course quite ignorant of medical questions. The druggist told this person, the servant of the deceased, that the dose was a very strong one, *sufficient to kill anybody*. The effect of this comment on the prescription, and the druggist's refusal to dispense the medicine, was inevitably to destroy the confidence of the patient's friends in the treatment, and to paralyse the efforts of the medical attendant in most urgent circumstances.

We think it would have been more creditable to the druggist in question if he had known that the administration of large doses of tincture of digitalis has been a recognised practice since the discovery twelve years ago of its usefulness by Mr. JONES, of Jersey, who treated sixty-seven cases in this way. Only one of the cases died, and this of tumour of the brain. Opinion is still divided as to the merits of this treatment. But it has been successful enough for STILLÉ, a great American authority in materia medica, to say: "So far as we can discover, the success of the remedy in the hands of other physicians has been almost uniformly equal to that of Dr. JONES." But our complaint against the Ramsgate druggist is not so much that he was uninformed as to doses and actions of medicines, but that he was uncourteous in the way in which he treated a medical prescription which happened to be beyond his comprehension. Medical men, we repeat, can only feel obliged to druggists who act cautiously in dispensing large doses of powerful drugs. But they have a right to expect that the caution of druggists will take the most courteous form. As a rule this is their experience, and our chief charge against Mr. FISHER is that he did not do what nine druggists out of ten would have done—viz., quietly ascertain the accuracy of the prescription, but straightway denounced it to the messenger. Mr. FISHER thinks the doctor who wrote the prescription should have waited on him, and stated the case. This is his modest estimate of the duty of a medical man who, for aught he knows, was attending to other patients as ill as the one whose death occasions the discussion of this question. There is no doubt something to be said for a special intimation to the druggist in writing an unusual prescription. The Germans do this by a mark of astonishment after the unusual dose, which seems to us objectionable, as apt to convey to the patient or his friends a disturbing idea of the medicine. It might be done by special note, or by underlining the unusual dose; but if not done—and in this case, considering the notoriety of the particular prescription, it is not remarkable that it was not thought necessary,—the plain duty of a druggist is to put himself in quiet and courteous communication with the writer of the prescription, and ascertain his mind in the matter. Having done so his responsibility ends. Things are come to a fine pass if the public are to have no medicines but such as commend themselves to the approval of druggists.

THE advocates and advisers of the movement for the medical education of women are evidently undecided as to the best method of surmounting the difficulties imposed upon them by the recent adverse decision of the Scottish Judges. Mrs. GARRETT-ANDERSON has suggested that, considering the great difficulty of establishing in England a medical school for women which would be recognised by the examining bodies, the best possible course would be for the ladies to go to Paris, where they might enjoy without contention or dispute all the facilities for study afforded to

the male students. Miss JEX-BLAKE, on the other hand, strongly objects to this expatriation, and advises the female aspirants for medical honours to stay at home, and by patient perseverance to overcome every obstacle to their entrance into the profession, and secure for themselves all the opportunities possessed by men for gaining a complete medical education and a legal qualification to practise.

The Times has recently, in an able article on the subject of female medical education, shown that the difficulties of establishing a medical school for women in connexion with a general hospital have been greatly exaggerated, for in London there are at present three general hospitals unattached to a medical school; but it also suggests that to successfully carry out the plan would involve a considerable pecuniary outlay and consequent loss if the school should prove to be unremunerative. Our contemporary also justly observes that "the advantage or disadvantage of having women doctors can only be determined by experience, and, until that experience is gained, we have no data for discussion." This is no doubt true to a great extent, but fortunately other countries are not without some experience, and we may be allowed to judge of the results, which are not sufficiently satisfactory to warrant the extension of the movement to this country. It is to be feared, however, that the subject has now attained such dimensions that it cannot be quietly shelved by abstract arguments, and that nothing short of actual demonstration will suffice. For this, therefore, it is necessary that medical schools should be established for women, where they may study the various subjects prescribed in the medical curriculum, and from which they shall be eligible for examination by the various examining bodies. This would be rather an expensive method of allowing the agitation to destroy itself, but it would perhaps be final.

It is morally certain that, if women freely enter the profession, considerable alterations must be made in the methods of conducting practice, and the relationship between patient and practitioner will become considerably modified. If medical women become more numerous, medical men must necessarily become fewer, for already the supply equals the demand; and, as we have previously pointed out, unless it can be shown that women possess better qualifications for the duties of the medical practitioner, it is a false economy to urge them on to competition. Of course, if it should be that women do possess all the requisites for efficient practice, by all means let them engage in it, and thus allow men to follow higher and more lucrative callings. But, *a priori*, it seems to us that, of all occupations, the practice of medicine is that for which women are least fitted, and that woman's sphere of usefulness in the healing art should certainly be limited to the carrying out of the desires and implicitly obeying the dictates of the medical man attending a sick person; that, in fact, she should never exceed the duties of a nurse, for which she is by nature and habit more particularly adapted.

WE are glad to learn that it is intended to devote a portion of the immense wealth of the late eccentric Duke of Brunswick towards founding a Faculty of Medicine at Geneva.

Medical Annotations.

"Ne quid nimis."

AN EDINBURGH PROFESSOR ON THE PUBLIC MEDICAL SERVICES.

AT the late graduation ceremonial for conferring degrees on the students of medicine in the Edinburgh University, on the 1st instant, Professor Turner delivered the address to the graduates. Mr. Cardwell's recent policy in regard to the army medical service has already begun to bear fruit. In the course of his remarks the Professor adverted to the public services—the medical departments of the army and navy—among the various outlets for their energies and as a means of employing and utilising the knowledge they had acquired. After briefly sketching the course to be followed in order to obtain such appointments, the Professor added that the same desire is not now exhibited amongst the Edinburgh graduates to enter these services as was at one time manifested, even within his own experience. The effect of the abolition of the chair of military surgery, which once existed in connexion with the University, might have been that the attention of the student was not so much drawn as heretofore to the army medical service as a career. But there were, he said, other powerful causes residing in the condition of the services themselves which had diminished their attractiveness to students. Among these Professor Turner enumerated the moderate scale of payment, the slowness of promotion, the routine character of the life in times of peace, the inadequacy of the retiring pension after years spent on foreign service, and with the health broken perhaps by a residence in unhealthy climates, and the doubt which unfortunately prevails lest privileges and concessions granted one year will not, after the lapse of a few years, be again withdrawn. There can be no doubt whatever that, only to take the withdrawal of the allowance to medical officers in lieu of forage, the conduct of the War Office has caused the gravest dissatisfaction. Assuming it to be right in principle that allowances should be ruled by the nature and requirements of duty, and not depend upon rank, it is a gross breach of faith to apply a new principle to those who entered under a distinct understanding that rank was to carry certain privileges. A man expects that on attaining a certain age and standing in his profession he shall enjoy certain advantages, social or otherwise, and in the case of an officer especially, who cannot look to occupying a higher professional status with the concomitants of an increased rate of income and superior material advantages, a deprivation of this kind is a serious matter. If Mr. Cardwell honestly desires to apply an economical principle, why does he not commence with a reduction of his own official income? The bungling that has been displayed in connexion with the late Warrant would be ludicrous were it not lamentable, and a communication in another column exhibits a flagrant example of it. One of the lately promoted medical officers has found out that the Indian Government simply refuses to recognise his right to the pay and allowances of his rank! However, to return to Professor Turner's remarks, he concludes that "Though in more stirring and warlike times, when the pulse of the whole nation throbs at the recital of deeds of daring, when the love of adventure—which acts as a powerful incentive to so many men—is aroused, and when opportunities for acquiring personal distinction can be obtained, the services may regain their popularity with our students, it must be confessed that in these days of peace, when men look at things in a calmer and more practical way, and are disposed to follow that line of life which is likely to prove

most lucrative, the inducements to enter the services are not so powerful as to outweigh those which are offered by even a moderate amount of success in private practice."

PETTENKOFER ON CHOLERA.

ALMOST simultaneously with the issue of Mr. Simon's precautions against cholera, Pettenkofer delivered on the same subject a lecture which has just been made public. It is gratifying to notice the perfect unanimity with which the English health officer and the German analyst think and write. The disease is not, says Pettenkofer, an infectious one. Depending as it does on conditions of time, place, and of the individual, no one need be afraid of a cholera patient living under the same roof or in association with him. On the contrary, he may render all assistance in his power without risk. Only he must be punctiliously observant of cleanliness in household and in body. Not the state apartments merely, but every corner of the dwelling should be regularly and thoroughly ventilated (he does not believe in air-purifiers), especial regard being had to all sources of air-pollution, water-closets, sinks, conduits for wash-water, and so forth. Genuine foci of miasma are the rooms, the drawers, the baskets in which soiled linen is kept. While the epidemic prevails, all laid-off linen should at once be put in the soap-boiler, allowed to lie there for hours, rinsed in well-water, and dried for later use. As to disinfectants, Pettenkofer is not so reticent as Simon, but recommends green copperas and carbolic acid. Everything that comes from a cholera house or a cholera locality requires especial purification and disinfection, forming as it does the "first line" of the multiplying infection-matter in the dwelling. Linen or cotton stuffs are best purified in the steaming soap-boiler; woollen stuffs, horsehair, and bed-feathers should be boiled in water and then smoked with brimstone. The "second line" of the infecting matter, according to Pettenkofer, concerns the person, and in this respect he is much more explicit than Simon. Soap and water, of course, are essential, but so is constant change of linen, for this may be likened to a "dry bath." While warmth is kept up, transpiration should be free. Flannel-swathing of the abdomen and feet, and woollen stockings, are the best. Clean beds, pure linen, and good clothing most effectually aid transpiration. The physician must be consulted as to the best means of keeping active the function of the skin, depending as that does on idiosyncrasy. Moderate but sufficient food and drink is the rule; above all, the freshness of both is paramount, pure water being a universal counter-agent to cholera and typhus. Against diarrhœa the above-recommended choice of food and clothing is the best protective. Finally, says Pettenkofer, there is no patent medicine or secret antidote to cholera. What are given out as such are a swindle and a snare.

POPULAR ADVICE GRATIS.

WE regret to find that a London physician of some reputation has embarked, no doubt with the purest intentions, in the dangerous undertaking of affording medical advice to the correspondents of a twopenny weekly periodical. The *English Mechanic and World of Science* inaugurated on July 18th a "Medical Column," with the following heading:—"Edited by William H. Stone, M.A. M.B. Oxon., Fellow of the Royal College of Physicians, Senior Assistant-Physician and Lecturer on Physics at St. Thomas's Hospital." In some introductory remarks Dr. Stone says, truly enough, that he and the editor "see from the first certain dangers to be avoided, and some misconceptions to be guarded against"; and, among other things, remarks that "this column is not a shop for feeble and perfunctory medical advice." It is unfortunate that, a little further on, he writes—"To a querist who sought advice I could go thus far: I could say whether the symptoms named bore a grave or trivial interpretation; I could even, at times, guide him in the proper way for obtaining sound and trustworthy advisers."

In the next number of the periodical Dr. Stone advises on the use of stays; on the character of a disorder the nature of which may be inferred from the fact that it is "impossible to print his letter in a paper likely to be read by women and young persons"; and on cases of "sluggish liver" and "chronic inflammation," the sufferers from both of which disorders are informed that "it would be a real unkindness, as well as a gross imprudence, to prescribe for either from their own report and unseen."

In the number for August 1st Dr. Stone devotes a column to the consideration of the pathology of consumption, prefacing his article with the statement that his "warrant is a connexion of many years' duration with the Brompton Consumption Hospital," and concluding it with the following sentence—"My experience is, that most patients, from fear of an adverse verdict, hesitate to consult the medical man until irremediable mischief has been done to the lungs as well as the constitution." A little lower down, too, a Belfast correspondent is informed that "the symptoms you name sound rather serious, but it is impossible to say more from your report of the case. Do not neglect taking the best advice you can afford."

Lastly, in the journal of August 8th Dr. Stone appends the following note to a case which looks very like ozæna: "I fear the evil is deeper seated than our correspondent thinks. It is essentially a case for a careful examination of the lungs." And he advises the mother of three scrofulous girls to pay "early attention to chest affections, however slight."

Now, seeing that Dr. W. H. Stone's name and titles are printed in full each week at the top of the column in which he advises personal interviews with the best available authority on chest diseases, and that he refers to his former connexion with the Consumption Hospital, we cannot but regard such conduct as an infraction of the etiquette of the profession, and hardly worthy of a Fellow of the College of Physicians and an officer of a London hospital. Fortunately the error is not one of long standing; but we earnestly counsel Dr. Stone to find some better field for his talents than the correspondence column of the *English Mechanic*.

EFFECTS OF SECTION OF MOTOR NERVES ON MUSCLE.

BIZZOZERO and GOLGI (Stricker's *Jahrb.*, 1873, Heft 1) give an account of an experiment they made upon a rabbit when six months old. On the 10th January they cut out a considerable piece of the sciatic nerve. The tibio-tarsal joint of the side operated on became thickened, and an ulcer formed upon the surface in the course of a month. The lymphatic glands swelled. The animal, however, retained tolerable health till the 20th August, when a portion of the crural nerve was excised on the same side. The rabbit remained pretty well till the 9th November, when the ulcer began to increase and assume an unhealthy aspect, and in December it died, having previously become exceedingly thin. On post-mortem examination the connective tissue of the whole lower extremity was found to be infiltrated with serum, ulcers had formed at various points, and beneath these were cheesy deposits, each of which was surrounded by a dense capsule of connective tissue. The stumps of the divided nerves were separated from each

other by a considerable interval. The superficial muscles of the thigh presented a pale-rose colour, whilst the deeper ones were of a yellowish-red. The superficial muscles of the lower leg were in general greyish-red, but in parts yellowish; they felt hard and were easily torn. The deep muscles had undergone some thickening, and had a uniform yellowish colour; on section they appeared smooth and uniform, the surface of the section resembling bacon-fat. Microscopical examination showed that in the superficial muscles of the thigh there were scattered groups of fat-cells arranged in linear series, which apparently corresponded with the course of the nerve-fibres. The muscular fibres of the deep muscles of the thigh were thinned, the transverse striæ scarcely visible, and between the muscular fasciculi of the first and second order were numerous and very well-defined fat-cells. In other parts the muscular substance of the several fibres was partly torn into fragments and partly replaced by fat-cells. The superficial muscles of the lower leg presented in a very marked manner the usual consequences of nerve section—namely, proliferation of nuclei in the muscle-corpuscles, atrophy of the muscular fibres themselves, increase of the interstitial connective tissue, and numerous fat-cells between the muscular fibres. Lastly, in the deep muscles of the lower extremity, where the muscles were yellowish and like bacon on section, no trace of muscular fibre was visible; the tissue appeared to be altogether converted into adipose tissue, comparable to the panniculus adiposus. In transverse sections the fat-cells were rounded or polyhedric, and formed a kind of mosaic. In longitudinal sections they were serially arranged in correspondence with the direction of the fasciculi.

DEATH FROM THE USE OF THE STOMACH-PUMP.

AN inquest was held at Blackburn on the 21st instant, before the coroner, H. U. Hargreaves, Esq., touching the death of Thomas Titterton, aged fifty. It appears that the deceased (who had formerly been addicted to intemperate habits) was accustomed to take daily half an ounce of tincture of rhubarb as a stimulant and tonic, for which he was in the habit of calling every evening at the shop of a druggist at Blackburn. At 7 P.M. on the evening of the 16th he called at the shop and asked for "his usual dose," which he drank then and there, but remarked that it did not taste as usual, and the druggist looking at the bottle from which the dose had been taken, found that he had given him laudanum by mistake. A scruple of sulphate of zinc dissolved in a tumbler of water was immediately given. A medical man who was called administered three pints of warm water, and another medical man who arrived shortly afterwards proceeded to use the stomach-pump. "The tube was too large, and on the smaller one being introduced at the mouth, that was found to fail also." Ten grains more sulphate of zinc were then administered, and the deceased vomited copiously. The deceased never seems (after vomiting had been induced) to have had any symptoms of narcotic poisoning. He complained very much of his throat and the administration of nourishment became difficult. He was much emaciated, and died on the afternoon of the 19th, three days after the accident.

The post-mortem examination revealed a stricture of the œsophagus (probably malignant), which accounted for the difficulty in passing the tube. Above the stricture the walls were very thin, and a perforating fissure was discovered which had doubtless been made by the tube of the stomach-pump.

He seems, previous to the accident, to have presented no symptoms of stricture of the œsophagus beyond some slight dyspepsia accompanied with "water-brash." The jury exonerated both the medical men from any blame, and very properly looked upon the untoward occurrence as a pure accident. Very properly also they considered the druggist deserving of grave censure, for from the evidence it appeared that no precautions had been taken by him to readily distinguish between the bottle which contained the laudanum and that which held the tincture of rhubarb.

LONDON STREET-ACCIDENTS.

FROM the police returns it appears that the loss of life and injury to persons arising from accidents in the streets are on the increase in London. It is true the deaths in 1871 were two less than in the previous year, and were rather fewer, in fact, than in any year since 1868. But the injuries, of which only 1334 were reported in 1866, increased steadily to 1919 in 1870, leaped up to 2445 in 1871, and were 2677 in 1872. Altogether, since 1866, there have been 771 persons killed in the streets and 12,630 persons more or less injured; surely a casualty account which merits far more serious attention than it has hitherto received, and calls for the most stringent regulation of our yearly-increasing street traffic. The Police Commissioner states that the number of the force detailed for the regulation of traffic and for the protection of pedestrians at street-crossings is being continually increased, but the large proportion of accidents, he says, do not take place at the crossings, for people will cross the thoroughfares just where it suits their convenience, without regard to the traffic. A certain amount of foolhardiness is inevitable among three millions of people, and under the best regulations some lives would be lost and some injury done; it is a question of diminishing an exaggerated casualty roll, not of rendering accidents impossible. The Commissioner, however, clearly indicates the direction in which an abatement of the dangers of the streets is to be looked for. Noting the fact that hackney carriages are only responsible for a small proportion of these accidents, he remarks that "if the drivers of unlicensed vehicles drove under the same sense of responsibility as hackney carriage drivers, the accidents might be diminished." The light carts and the heavy waggons, drays, and vans are the greatest sources of danger, and the drivers of these will sooner or later have to submit to as strict regulations as the hackney carriage drivers, if our streets are not to become a terror to the wayfarer therein.

LOCAL APPLICATIONS OF CHLORAL.

HARDLY is the topical use of carbolic acid fairly established than attempts are made to set it aside. Chloral, besides its hypnotic properties, seems to possess an antiputrid action. Either the hydrate of chloral, or what is called metachloral, may be used. The latter, according to Dumas, is prepared by placing in a bottle with an emery stopper some chloral and five or six times its weight of sulphuric acid. The next day the chloral is transformed into metachloral, which must be well washed with water to remove the sulphuric acid. It is a coarse white powder, smelling strongly of chloral, hardly soluble even in boiling water, and distilling between 150° and 200° C. without melting. Regnault has shown that it is similar in composition to chloral, and its formula is $C_4HC_3O_3$, being simply an isomeric modification of chloral. Dr. Dujardin-Baumetz, of Paris, has largely experimented on the local application of chloral as a caustic or modifying agent and a local anæsthetic. It may be applied in substance, which mode is rather difficult, or in solution of different strength—namely, one or two per cent. in water or glycerine. Metachloral is applied in powder upon foul wounds, replacing

advantageously iodoform, the smell of which is so disagreeable. Cases are given where the application of chloral has been of much use in gangrene, phagedena, rodent ulcers, lardaceous ulcerations, certain diseases of the skin, lupus, and for modifying the cavities of abscesses, &c. It is of much value in relieving the pain of cancerous ulcerations; and, as chloral possesses the property of preventing decomposition of the urine, Dr. Baumetz thinks that in certain diseases of the bladder it may be usefully injected into that viscus.

"LE MAUVAIS QUART D'HEURE."

As might have been anticipated, pay-day for the recent entertainment of the British Medical Association has brought out another "whip" from the Entertainment Committee. Eight hundred pounds were subscribed by the metropolitan members, but the expenses incurred amount to £1050, and the seven members of the committee solicit "further contributions." These will no doubt be forthcoming, for we do not imagine the profession in London will grudge the bill, though it is a large one. The expenses include, it appears, £500 for three days' luncheons; more than £200 for the printing of circulars, the museum catalogue, programmes, &c.; and £125 for charges connected with the public dinner, guests, &c. Now, if a free luncheon is *de rigueur*, well and good, only it will prove a damper we fear on the desire to entertain the Association elsewhere; and we congratulate those members of the Association who joined it for the meeting at half-a-guinea on having had their money's worth in the most satisfactory form. It is somewhat hard, however, that the rank and file of metropolitan members should be called upon to pay all the expenses of the meeting, which is held in the interests of the whole Association, and is, in fact, the great feature of it. The provincial members certainly fared better than the metropolitan ones in the matter of admission to the public dinner and excursions, and this was but fair when the numbers were limited; but to have to pay £125 to give other people the privilege of dining is rather hard measure.

COLONEL KENNETH MACKENZIE.

THAT a man who had faced so many dangers in the battle-field, encountered those of so many climates, and endured so many hardships as Colonel Kenneth Mackenzie, should at last have died the death he did is a fresh illustration of the irony of fate. His life belongs to this age, and he played a prominent and always a noble part in many of the most stirring events of a not uneventful period. Colonel Mackenzie was a rugged, large-hearted, cosmopolitan sort of man. He had a good deal of sympathy with medical officers, and a thoroughly kindly and just appreciation of their services, and among those who have sorrowed most at his death may be numbered many an army doctor. It is only due to his memory to state that he was not simply a brave man, but nature had endowed him with a vigorous brain and an honest and good heart. He was always genial, often humorous with a humour of his own, and never ungenerous. Of course, his great and varied experience lent peculiar value to his opinions, but it was his shrewdness, directness of aim, and the almost unerring sagacity of his judgment that made him such a capital man of business. Altogether, Kenneth Mackenzie was a thoroughly fine fellow, who merited much more than he ever obtained from the State. His services were cosmopolitan, and no officer was more widely known or will be more affectionately remembered. We believe that, spite of his hearty genial face and strong frame, Colonel Mackenzie had manifested some indications of cardiac disease, and it is extremely probable that his death was the result of cardiac exhaustion, following the strain to which the organ had been subjected by the accident that preceded his death.

VASO-MOTOR ACTION OF THE LINGUAL AND HYPOGLOSSAL NERVES.

IN a paper recently read before the Société de Biologie M. Vulpian states that hyperæmia and dilatation of the smaller vessels occur after section either of the lingual of the fifth or of the hypoglossal nerve in the corresponding half of the tongue. The venous blood of the injured side assumes a bright or arterial tint. When electrical excitation is applied to the peripheric extremity of the hypoglossal nerve the hyperæmia diminishes, and the corresponding half of the tongue becomes pale. On the other hand, electrical excitation of the peripheric extremity of the fifth increases all the appearances of hyperæmia. It would hence appear that both nerves contain fibres capable of causing dilatation and contraction of vessels. In the hypoglossal nerve the latter predominates, in the lingualis the former.

M. Vulpian has also made some experiments in regard to the splanchnic nerve, and finds that if, in dogs fully under the influence of woorara, the splanchnic nerve be divided three centimeters above the left supra-renal body, the volume of the kidney on the same side and the amount of blood it contains are increased, and the quantity of urine secreted is also augmented. The urine becomes albuminous, but contains no epithelial cells cast off from the tubuli nor blood. On exciting the peripheric extremity of the nerves with induced electrical currents, the kidney becomes pale, the veins contract, and the secretion ceases.

A DELICATE OFFICE.

THE Chelmsford district of the Essex Provident Society has just appointed Mr. Keene as its medical referee. This is a large society, numbering some thousands of members, and the step taken by it in appointing a referee may be followed by other societies. The duties of the gentleman holding this appointment are, not to attend the members in sickness, but to examine candidates for admission, and to report on the cases of applicants for, and recipients of, benefit allowances. As we understand it, Mr. Keene will not have to attend the members in sickness, but to visit them while under the care of other medical men. The remuneration is to be 1s. per head per annum on the gross average number of members, disabled or not, within the district. Doubtless, Mr. Keene will intimate beforehand his intention of visiting the patients of other practitioners. But it is not certain that any amount of notice will make his visit acceptable. A man would require very exceptional qualities indeed to discharge such duties. And it is not difficult to imagine cases in which a medical man might reasonably object to their being visited and examined by the referee. Surely the Society would do better to appoint regular medical officers, whose certificates would be all the more valuable for their being in constant attendance on the patient. We shall be interested to hear of the working of the system.

DANGERS OF WELL WATER.

THE dangers of bad milk are engrossing so much attention just now that there is reason to fear lest the far greater dangers of bad water should, for the time, be overlooked. We trust this serious error will not be committed. For one sample of dangerous milk a thousand of dangerous water could be obtained in almost any part of the country. Let it never be forgotten that very few rivers or wells are safe sources of water-supply, and that many are as unsafe as

loaded fire-arms. The shallow wells of villages are among the worst pests of the country, and it is high time that a zealous and well-organised crusade should be brought to bear upon them. It is sickening in most country places to observe the uniformity with which the cesspool and well are made to stand side by side, as though each was necessary for the other; and to think of the twenty feet or so of foul, sewage-reeking soil through which the water percolates to its fetid bed. The question should engage the earnest attention of every health officer, and will in too many cases tax his energies severely, for it is one of the hardest of sanitary problems. It is always possible to provide a city or town with good water, but in a village, where houses are few, money scarce, and intelligence scarcer, it is often a matter of exceeding difficulty.

ANÆSTHETIC TRAVELLING.

WE gave a short account a week or two since of a journey which had been unconsciously performed by an invalid, who was kept for about two hours in a semi-anæsthetised condition, and was thus saved the apprehension and pain which must inevitably have proved most trying and exhausting to a weakened invalid. It is not likely that this example will be followed except in rare instances, but it is at the same time doubtful if we make all the use we might of anæsthetics for the purpose of tiding over periods of suffering. If the anæsthetic be administered to only a slight extent, there is, in the hands of a competent person, no danger in prolonging the administration; and when chloroform is used in midwifery, it is no unusual thing for the patient to be made unconscious of pain for several hours together. There are many chronic invalids whose lives are made doubly wretched by the apprehension of some periodically-recurring and painful manipulation which may be necessary for them, but all such apprehension would be at once removed by the knowledge that the slight annoyance of the inhalation of a small quantity of the vapour of chloroform or ether should replace the greater annoyance of exhausting agony.

THE LATE MANŒUVRES AT DARTMOOR.

WE are glad to learn that nothing could be more satisfactory than the health of the troops during the late manœuvres. Notwithstanding the amount of rain that fell, and the unsatisfactory character, as it proved, of the climate, the percentage of sick to total strength was represented on one day at the close as a little over 1. This included 178 sick in the base hospital at Devonport, and 38 patients in the various field hospitals. Deputy-surgeon General Dr. Munroe, C.B., acted as the principal medical officer, and had exclusive control over the medical arrangements. The system followed was that of evacuating all cases that were at all serious on the base hospitals, and leaving the field-hospitals available for all the remainder.

HANWELL ASYLUM.

THE asylum associated with the reforms and improvements of Conolly in the treatment of the insane has lately been rather notorious for casualties and scenes of violence. An old man is removed from it to Paddington Workhouse, in circumstances which reflect unfavourably on the attendance. Arrived at the workhouse, he commits suicide. According to the medical witnesses at the coroner's inquest, the man was quite unfit to be removed, while the foreman spoke very strongly to the same effect, and observed that the doctor who ordered the patient to have stimulants *en route* to Paddington ought to have seen that his removal was contra-indicated. A scuffle between two female patients in the grounds of the asylum terminates in one of them giving the other a kick in the abdomen, which proves fatal. "Which asylum"? the reader incredulously asks. Hanwell, we repeat, where Conolly laid it down as a principle that the number of attendants should be sufficient for all emergencies, particularly for preventing scenes of violence between keeper and patient or the patients themselves. Loss of character is a serious thing for any institution, doubly so for a lunatic asylum which justly stood among the foremost for the care and cure of the insane.

CANNOCK CHASE.

WE learn from Cannock Chase that there was only one ambulance waggon for the first brigade; that the supply of field companions for the militia and volunteer regiments was inadequate. A correspondent states that he noticed four water-carts drawn up at a small pond about two feet deep, and obtaining their supply of water from this source, the water party throwing in their pails and dragging out water and mud together. Of course, the bottom of the pool having been disturbed, the water was muddy in the extreme. Fortunately, attention being called to the circumstance, the men were ordered to empty their water-carts; otherwise fluid from this source would have been supplied to a considerable number of the troops. Much difficulty was experienced, owing to the utterly insufficient supply of ambulance-waggons, in getting any injured man to the hospital, and there are great complaints about the deficiency of medicines and hospital stores, and the difficulties in the way of procuring them. The diseases of the soldiers have comprised simple maladies, such as derangements of the digestive organs, sprained ankles, and injuries of a similar character.

THE CHOLERA.

WE have not received any report of the occurrence of a case of cholera in this country up to the time of going to press. We understand that a case of choleraic disease recently occurred in the person of a soldier at Great Yarmouth, which temporarily gave rise to some anxiety on account of the grave nature of the symptoms, but there is no reason to believe that it was anything more than a severe case of English cholera. The man recovered. There is no subsequent report of any similar occurrence, and the town is healthy.

Up to Wednesday, August 27th, no cases of cholera had been observed in the hospitals or town practice in Paris. The present sanitary condition is about what it always is at this time of the year.

SANITARY MEASURES.

DR. CORNER, medical officer of health for Mile End, has submitted to the vestry of his district excellent instructions for dealing with a possible visitation of cholera, and has advised that they should be printed and distributed in the parish. We regret to learn that considerable apathy is evinced by some of the metropolitan vestries in carrying out in their entirety the recommendations of their health officers. The sanitary committees of the vestries should not allow the consideration of a trifling increase of expenditure pressing on the ratepayers to militate against the furtherance of measures for ensuring the safety of the people, and should, moreover, understand and appreciate the fact that efforts to combat a potential outbreak of a disease have a direct and beneficial bearing on the general health of the community. The cordial co-operation of local bodies with the wishes and action of their health officers is eminently desirable at this juncture.

MEDICAL OFFICER OF HEALTH FOR CARLISLE.

THE Town Council of this city have done wisely in selecting for their medical officer of health Dr. Robert Elliot, whose labours in the cause of sanitary progress are well known. Dr. Elliot is the author of several able papers touching on hygienic matters, and, on merely public grounds, has in former years greatly interested himself in the sanitary welfare of the city whose health he has now been called upon to look after officially.

The *Carlisle Daily Journal*, in commenting upon the appointment in terms most gratifying to Dr. Elliot, makes the following remarks, which seem to us worthy of quotation:—

"The office will, however, if properly discharged—as we feel confident it will be—be no sinecure; it is one that will require to be filled with tact, good temper, and forbearance, so as to secure cheerful co-operation instead of active or sullen hostillty on the part of those who may be called upon to mend their ways. The law will be of little use in itself unless the people should themselves be convinced that the object it aims at is beneficial, and should give cheerful and intelligent assistance in carrying it into effect. The medical officer of health will be required both in town and country to play the part of the general public instructor as well as that of the stern censor; and we should anticipate much better results from the patient instruction and mild persuasion of a man of strictly benevolent feelings than from any harsh exercise of authority or obtrusive or officious display of the terrors of the law."

MANIA FROM FIRE.

ONE of the most distressing, because rarely remedial, forms of chronic mania is that produced by the mental shock of fire. The patient wears a peculiar aspect, in which suspicion is one element and a settled look of panic another. Photographs of such inmates of asylums are remarkably uniform in their representation of this expression. The great fire at Chicago in the autumn of 1871 has produced a large number of lunatics, no fewer than 250 sufferers from it having been adjudged insane by the courts of Illinois. Considering the privations, however, to which the houseless victims to that conflagration were in many cases exposed, other causes than fire-panic may be credited with a share of the result.

VARIOLA STATISTICS IN INNSPRUCK.

THESE statistics refer to an epidemic stretching over the years 1864–67. The points of interest are these. Out of 224 patients admitted into the General Hospital, 205 recovered, and 19 died. In the fatal cases 2 had been vaccinated, 5 were unvaccinated, and in 12 it was uncertain whether vaccination had been performed or not. A circumstance of great importance, and principally dwelt upon by Dr. Mayerhofer, the physician in charge, is that the disease attacked no less than 41 patients in other wards of the hospital. He urges upon the authorities to establish special hospitals for small-pox, and it is really surprising that this has not been done. Even in Paris it is sad to notice that small-pox patients are admitted into the general hospitals.

MILK-SUPPLY AND TYPHOID.

CONCURRENT testimony as to the connexion of milk-supply and typhoid fever is particularly interesting at the present juncture, and the evidence of Dr. Thomas Britton, of Driffield, as to the outbreak of typhoid in Brighouse, near Leeds, up to the 26th inst., has a special value. Since the commencement of the outbreak, the total number of typhoid cases has been 68. Since the sale of the milk was stopped, the number of new cases on August 17th was 6; while the deaths also at that date were 8. There have been no fresh cases since the 21st inst. Out of the 68 cases of typhoid, it is important to find that 65 procured their milk from the suspected source.

SIR HENRY HOLLAND.

A CONSISTENT advocate of "change of air and scene," Sir Henry Holland's practice coincides with his precept. At the age of eighty-five—itself a proof of the soundness of the prescription—Sir Henry has just started on his annual two months' tour, his destination this autumn being Nijni-Novgorod. He has never lost a patient—though he has lived to preserve many—by his wanderings, which, as is well known, include eight voyages to the United States and Canada, one to Jamaica, four tours over the East, three to Algeria, two in Russia, several visits to Sweden and Norway, and one to Iceland.

THE LATE DUKE OF BRUNSWICK.

THE results of the post-mortem examination performed on the body of the late Duke of Brunswick showed that he evidently died from an attack of cerebral congestion. The chemists appointed to assist the medical men in their examination stated that there were no traces of poison in any of the Duke's viscera. It was through life one of the Duke's presentiments that he might one day die by poison, and he expressly stated in all his testaments that his body should be examined from this point of view.

THE CORONERSHIP OF LEICESTER.

MR. W. PAULSON, L.R.C.P. Lond., is a candidate for the office of coroner for a part of Leicestershire, the limits of which will be decided at the adjourned Quarter Sessions, on August 30th. There are three legal candidates. The medical profession of the town and county of Leicester should select their candidate or candidates, and determine to get him or them elected. The profession can do a great deal if it acts collectively—very little if it does not so act.

INTRODUCTORY LECTURES AT THE LONDON HOSPITALS.

THE inaugural addresses will this year be delivered as follows:—Charing-cross Hospital, Mr. Bellamy; Guy's Hospital, Mr. James Hinton; King's College Hospital, Dr. Sheppard; London Hospital, Dr. Prosser James; Middlesex Hospital, Mr. Henry Morris; St. Mary's Hospital, Dr. Shepherd; St. George's Hospital, Mr. Brudenell Carter; St. Thomas's Hospital, Dr. John Harley; University College Hospital, Dr. Roberts; Westminster Hospital, Mr. Cowell.

DR. NELATON.

OUR Paris correspondent states that Dr. Nélaton is so much better that he is able to take a little food, and has gained strength. His nights are better, and Dr. Moutard-Martin's bulletins are generally more hopeful.

THE steam-ship *Humboldt* brought up to London on Monday last a party of 157 emigrants from Stettin and Copenhagen, *en route* for New York. As both these ports are known to be infected with a suspected attack of cholera, the port medical officer inspected the emigrants between Southend and Gravesend, and gave them a clean bill of health off the latter place. We have just received word on going to press that the health of these emigrants is excellent, and that the vessel will haul out of dock for her final destination this (Thursday) evening.

THE *Pall Mall Gazette* states that Mr. Thomas Holloway, of pills and ointment fame, has commenced the erection of the asylum for insane patients, which he intends to present to the nation. The site of the asylum is opposite the Virginia-water Station of the Staines and Wokingham branch of the London and South-Western Railway. The establishment is intended to accommodate 400 patients, and will probably cost £100,000.

AT a late meeting of the St. Pancras Guardians a strong protest was made against the proposed outlay of £12,500 for converting the Cleveland-street Workhouse—the *bête noire* of the Board—into a hospital. It was urged that there was ample room at the Highgate Infirmary for patients from the parishes comprising the Sick Asylum district, and that the project would involve the ratepayers in heavy and needless expense.

EDUCATION in India is showing its good effects on the natives in many ways. They are developing a native literature, the centre of which is the "University" at Lahore, which is intended to impart Western science to the learned of India in an Oriental dress. One of the first and most gratifying fruits of this Eastern *renaissance* is a well-conducted medical journal.

IT is with sincere regret that we learn of the illness of Dr. Robert Smith, Professor of Surgery in the University of Dublin, and Vice-President of the Irish College of Surgeons. Dr. Smith is suffering from hepatic disease with dropsy, and a few days back it was found necessary to tap him. We shall be glad to hear that our accomplished *confrère* is better after the operation.

THE Right Hon. Benjamin Disraeli will deliver his inaugural address as Lord Rector of Glasgow University in November next. Shortly after his election the delivery of the address was postponed, owing to the death of the Viscountess Beaconsfield.

THE *Globe* announces that from the 1st September a sleeping carriage will be attached to the down Scotch express train which leaves King's-cross at 8.30 P.M., and to the up express train which leaves Glasgow at 9 P.M. and Edinburgh at 10.30 P.M.

AN Inspector from the Local Government Board has been inquiring into the alleged offensiveness of the various chemical and manure factories on the river side in the neighbourhood of Greenwich, Woolwich, Blackwall, and Erith.

IT would appear from Dr. Tripe's last report to the Hackney Vestry that there is a serious amount of overcrowding in the parish.

THE Parliamentary Commission of the French National Assembly have decided that two new Faculties of Medicine will be instituted, one at Bordeaux and the other at Lyons.

THE Bengal Government (so telegraphs the *Times* correspondent) has ordered the extension of the medical vernacular colleges in Calcutta, Dacca, and Patna.

ADVICES from Capetown intimate that small-pox is raging at Amatongal, and cutting off the natives by hundreds.

THE mortality last week in London was at the rate of 24 per 1000. The deaths from diarrhœa amounted to 362.

THE *Athenæum* states that the autobiography of Dr. Granville will shortly appear.

A REPORT has been circulated touching an attack of illness in M. Guizot which is quite groundless. The illustrious old statesman is in the enjoyment of perfect health and spirits. On the other hand, some fears are entertained in respect to M. Littré's health, which has much failed of late.

THERE are several members of the profession in California who own vast tracts of land. Dr. Glenn, of Colusa County, possesses a ranch containing nearly 45,000 acres. It has a frontage of 18 miles on the Sacramento river, and is enclosed and divided by 140 miles of fencing.

AT an inquest held at No. 8, Eagle-street, Holborn, on the body of a woman who died of enteric fever, the jury returned a verdict that deceased's death was accelerated by the unhealthy condition of the dwelling-house, and called the attention of the vestry to the matter.

THE Committee of General Purposes of the Middlesex magistrates have recommended the appointment of Dr. Theophilus Redwood as analyst.

MR. GLAISHER, of the Royal Observatory, Greenwich, states that the week ending on Saturday last was colder by 0·8° than the corresponding weeks of the past fifty years.

AT the last sitting of the Paris Academy of Medicine, Professor Hirtz, formerly of the Faculty of Strasburg, was elected a member.

THE Grand Prize of the Exhibition of Vienna has been awarded to the International Exhibition of the Society for Help to the Wounded.

A FRENCH practitioner, Dr. Jacques Bonnet, died suddenly a few days ago, whilst giving a consultation in his room.

THE number of cases of cholera in Berlin up to the 21st August was 129, of which 90 proved fatal.

THE German journals announce that the King of Saxony is rapidly recovering his health.

DR. RICORD has been appointed consulting surgeon to the Hospice Municipal.

WE are sorry to hear that Archbishop Manning is severely indisposed.

THE OUTBREAK OF TYPHOID FEVER IN MARYLEBONE.

SINCE our last report we are glad to be able to state that the number of cases has not increased, although our knowledge of families which have been infected has extended. The total number of infected families in the Marylebone district amounts now to 123. Of these 106 are known to have been supplied by the Dairy Company. The source of the milk-supply of the remainder is doubtful, and requires further investigation. Cases, which are all presumably due to the same cause, are heard of from Switzerland and from various parts of the United Kingdom, Derbyshire, Cheltenham, Folkestone, Scotland, Wales, and elsewhere.

The evidence is increasing also that the epidemic was making slow and desultory progress for some months before its extent attracted attention and its cause was tracked, and there are some few facts which point to its existence even so far back as Christmas.

No evidence has as yet been offered to lessen the strength of the theory which has by the common consent of all

competent persons been put forward as to the source of the epidemic; and, indeed, all controversy on this point has been finally brought to a close by the letter from the secretary of the Dairy Company in *The Times* of Tuesday last, in which he says:—"There is now, we regret to say, no doubt that a large percentage of the recent cases of typhoid fever in Marylebone, as well as in some other districts, has been caused by milk supplied by this Company."

It is to be hoped that the company, after the severe criticism to which their letter has been subjected, have by this time learned to appreciate the value of silence. Nobody thinks of attaching any blame to the Dairy Company for the untoward accident which has befallen them and their customers. The general feeling towards them is one of sympathy and regret that a company which has really done so much for the greatly-needed reform of the milk-trade, and which numbers among its directors so many public-spirited and upright gentlemen, should have been advised at this important crisis to pursue a course which has most certainly been remarkable for lack of wisdom.

Impressed with the importance of organising a system of continuous medical, veterinary, and chemical inspection of their dairies, they have already appointed a chief medical officer, whose duty it will be to visit all the farms and establishments of the Dairy Company at least once a quarter, and oftener if occasion should arise, and it will be further the duty of this gentleman to receive weekly reports from provincial medical officers as to the sanitary state of the farms, and the health of the *employés* and cattle. An analyst has been appointed who, though he may be unable to detect typhoid poison, should it exist, will nevertheless be able to place considerable obstacles in the way of adulteration; and lastly all the medical officers of health of the districts where their milk is sold will be invited to inspect their establishments whenever they deem it necessary to do so.

Good cometh out of evil, and it was to be expected that recent events would give considerable impetus to dairy reformation, and it may be taken as a sign of the times that a company has been set on foot entitled the Sanitary Milk Company (Limited), with a capital of £200,000, in shares of £1 each. This company, says the prospectus, "is formed to establish dairies for the supply of milk to the metropolis on a system such as will prevent adulteration, but ensure the proper sanitary supervision of the dairy, and that the cows yielding the milk shall be efficiently protected from disease." They propose to erect a large suburban dairy from plans prepared by Mr. Eassie, the well-known sanitary engineer, with the co-operation of Professor John Gamgee. Experienced veterinary surgeons will have charge of the establishment. The committee of directors will be assisted by a paid consulting medical committee, towards the formation of which many medical men of eminence have promised their assistance.

We are happy to see that during the past week several milk-vendors have been fined for watering their milk.

Correspondence.

"Audi alteram partem."

MEDICAL CERTIFICATES.

To the Editor of THE LANCET.

SIR,—The granting of medical certificates is one of the important duties of our profession, and I am glad to find that you have directed attention to the subject in your last number. Of course all such certificates should be strictly honest and true; but is it necessary or proper that as a general rule the whole truth should be circumstantially stated? A short statement of the law as it obtains in Scotland will illustrate what I mean. In all our higher courts of law certificates must be granted on "soul and conscience," and when the object is to secure exemption from acting as a juryman, or appearing as a witness, the particular disease under which the person is labouring must be stated. I may mention that I have oftener than once declined to conform to this order of court, but on being threatened with committal for contempt, thought discretion the better part of valour, and complied.

My ground of objection is simply that certificates so expressed would often be exceedingly damaging to the person on whose behalf they are granted. It must be remembered that they are read aloud in open court. Now, suppose that the certificate bore that the disease was a mental affection, syphilis, delirium tremens, or some ailment of a delicate character which no one would wish to be made public, the circumstance might be the gossip of the Exchange or the market-place in an hour, and your patient's character and reputation seriously damaged. I am therefore of opinion that the profession ought to stand out against stating the specific disease, and that such terms as "unable from sickness," or "is labouring under disease which renders him unfit," or words to convey distinctly that he is prevented by illness, without setting forth the specific disease, ought to be enough. The present system I hold to be a grievance both to the profession and the public, and one which they should unite to have remedied.

I am, Sir, your obedient servant,

Glasgow, August 25th, 1873. J. G. FLEMING.

VACCINATION AWARDS.

To the Editor of THE LANCET.

SIR,—During the last eight years I have worked very hard to carry out the Vaccination Acts, and, under somewhat discouraging circumstances, have been able to say that for this period I have not left a child unvaccinated. When, therefore, in 1869 I was refused the gratuity for the years 1867-8, I shared the opinions of your various correspondents in the recent numbers of THE LANCET. I felt disgusted at my want of success in obtaining recognition, when I knew that I had done my duty, and more than my duty. Calmly reviewing the circumstances, I came to the conclusion that the inspector was right, and I was wrong, inasmuch as I had permitted my assistant (an excellent vaccinator, but *unqualified*) to operate. So I laid down for myself three rules—1. Strictly to act up to my contract as to time and place of vaccination. 2. Implicitly to obey the directions issued by the Board in London. 3. To be most particular in the way of keeping the registers. The result has been the award of the full gratuity for the last four years.

Your correspondents have discovered for themselves that the Board in London not only require *good* vaccination, but also *good* records. I venture to think that this is no hardship on the public vaccinator. Take a parallel case. The paymaster of a regiment may be absolutely perfect in his duties, and account for the public money to a farthing; but if he kept his books *in his own way*, and *not* in the way laid down by the War Office, he would be at once corrected and censured.

The error of your correspondents is merely clerical, and is one that can be easily rectified; and, doubtless, at their next inspection their services will receive due recognition.

In THE LANCET of the 2nd instant Mr. Manby is very severe upon poor column 8. He thinks "that anyone *pretending* to fill up this column must necessarily render doubtful and very unreliable information." I, and doubtless many others, find no difficulty in filling up this column honestly and conscientiously. I have always been able to record the sources of lymph, and for two years have kept up absolute arm-to-arm vaccination in this parish by bringing into requisition lymph from private patients. In my outlying parishes I use lymph taken within twenty-four hours. Surely Mr. Manby can secure his own lymph, thus making his entries easier. If, as he says, he is constantly receiving supplies from his neighbours, nothing can be simpler than to enter "obtained from Mr. ———," or, in case of a private patient, "from Mrs. Jones's baby." The omission of column 8 is fatal to the reception of a gratuity, and more especially as this said column is our greatest defence against the anti-vaccinator, *et hoc genus omne*.

The great fault in the present system of vaccination is in the *six months'* interval, as laid down in the contracts. It is absurd for the Act to say, "every child must be vaccinated before it is *three* months old," when no opportunity is given

for the operation for six months. With this, however, we have nothing to do. We may not vaccinate oftener in our public capacity; but if we carry out the contracts laid down by the Local Government Board, that Board will not refuse the gratuities.

Your obedient servant,
THOMAS NEWHAM, M.D.

Winslow, Bucks, August 13th, 1873.

To the Editor of THE LANCET.

SIR,—Four years ago the inspector of vaccination called at my house and at that of the registrar of births, without giving either of us notice of his intention, and, finding us both out, did not inspect any of the books, neither could I hear that he examined a single child's arm. After a few weeks I wrote to know if I was to receive the promised reward, well knowing that I had merited it. I received a reply that there were so many children unvaccinated that I could not have a grant. I examined the registrar's books, and found there were *not six unvaccinated*, and that all of these could be accounted for by either illness or death. I therefore again wrote stating this fact, and received a small sum for the "improvement in the results."

Two years ago my district was again examined, and this time I had operated on a few cases at their own houses, and was consequently disqualified. A few months ago the inspector came again by appointment, and examined three or four cases, with which he expressed himself as satisfied, and knowing that I had kept every appointment and only vaccinated at the stations, and that I had produced three or four good, large, foveated scars in almost every case, and, further, that the quality of the vaccinations had been proved by the importation of two cases of malignant small-pox, without the spread of the disease in either case, I naturally believed myself entitled to the grant. I did not, however, receive any tidings of it, and, therefore, after a few weeks, wrote to the medical officer to the Local Government Board to know if I was to receive it, when, to my surprise, I received an answer that I was to wait till next time, without assigning any cause of failure.

Surely, Sir, if the inspections are not carried out more efficiently, and the Government rewards granted with more justice than at present, public vaccinators will be disgusted rather than encouraged. Would it be too much to ask that at least 5 per cent. of the cases should be examined, and that the cause of failure should be pointed out, in order that the public vaccinators may know in what to improve? There certainly is now great dissatisfaction felt at the utter want of justice in the matter, and not without cause.

I am, Sir, your obedient servant,
August, 1873. F. D. L.

THE AUTUMN MANŒUVRES, CANNOCK CHASE.

To the Editor of THE LANCET.

SIR,—I shall feel obliged by your publishing the following comments on the recent report of your correspondent from this camp, as there are certain points to which I wish to refer, though cordially agreeing with him in most of his observations.

Without doubt the shako is not a perfect head-dress, but I think its defect is as much in its not protecting the back of the head from the sun as in producing "distressing pressure." I have heard officers of the Guards say that they would rather wear a bear-skin cap all day on the march than the forage cap, for this reason alone.

With regard to the accoutrements, your correspondent's remarks have evidently reference to the knapsack, which in many regiments has now been superseded by the valise, and this to a great extent obviates the constriction produced by the dragging backwards of the tunic collar by the old straps, as the weight is now thrown in a more directly vertical direction.

Then, as regards the alteration he proposes in the tunic collar, he may not be aware that it is precisely the one which was suggested to the authorities some years ago by the late Captain Ram, Scots Fusilier Guards, as I believe I have before stated in your journal; and this officer had a sample tunic made after an Austrian pattern, to be worn with an ingenious neckcloth, which I exhibited to the Pathological Society. The combination, though excellent, was not approved of, and in 1869 I obtained permission to have a pattern tunic made at the Government Clothing Factory on a principle which would entirely obviate the present defect of the collar without exposing the neck—viz., by removing the hook-and-eye and by having no button above the sternum; and to prevent the collar gaping, one end was made to overlap the other a little. This tunic was approved of by H.R.H. the Duke of Cambridge, but as yet it has not been adopted, and perhaps is now "put aside."

These alterations are, however, but stepping-stones in the right direction, for until the soldier has loose clothing for active work, his health and powers of usefulness must be prejudicially affected. The infantry, *Guards excluded*, are now supplied with a loose working tunic, but, curiously enough, the collar is still made to fasten rather tightly round the neck. Perhaps this defect may in time be obviated.

I am, Sir, your obedient servant,
Coldstream Guards' Camp, Cannock Chase, August 26th, 1873. A. B. R. MYERS.

THE GROUSE DISEASE.

To the Editor of THE LANCET.

SIR,—I beg to forward a few memoranda of the appearances presented by grouse which died of the prevailing epidemic, and were sent to the Royal Veterinary College, Edinburgh, for dissection.

The internal organs were, on the whole, healthy, although in one case there was very slight inflammation of the lungs, and in another some reddened patches in the mucous membrane of the large intestine, and a group of objects resembling ova situated anteriorly to the kidneys. On examining the tissues microscopically we found numbers of round worms, resembling trichinæ in shape, in the mucous membrane of the large intestines, and particularly in that of the cœca, the larger worms being more superficial. We found the same worms in the muscular tissue of the pectoral region; there were also numerous crystals, apparently of sodium chloride. In the substance of the brain the same worm occurred, both singly and in groups. It may be remarked here that, although tapeworm is anything but rare in grouse, we failed to find a single trace of that worm in any of the birds we examined.

The emaciation of the bird was in proportion to the development or abundance of the worms; in one case, where the bird was literally skin and bone, the worms, when the structure was prepared for the microscope, were visible to the naked eye; and the smallest worms were plainly seen under a one-inch objective.

The examination of the cysts resembling ova, above-mentioned, led to no determinate result, nor did we find worms in any other structures than those cited. There was much food in the gizzard, but not so much as to cause impaction; while the ventriculus and intestines were comparatively empty. What deductions can be drawn from these appearances?

I am Sir, yours very truly,
J. VAUGHAN,
Late Demonstrator of Anatomy, Edinburgh Veterinary College.
Edinburgh, August 20, 1873.

MODERN BONE-SETTING.

To the Editor of THE LANCET.

SIR,—The recent discoveries in medicine and surgery are somewhat astounding to practitioners of forty years' standing. One of these has puzzled me greatly. I shall look for some new edition of Surgery to explain my difficulty, but, in the meantime, perhaps some of your readers may help me.

A few months ago I was called to see a young gentleman who had, in running a race, fallen and bruised his hip. He was able to walk across the room, but complained of pain about the buttock and thigh. There were no external marks of bruising, the limbs were of equal length, and the affected limb could be easily rotated by the patient. There was no sign of any displacement of the femur, and I en-

joined rest. In a few days the patient went down stairs, and in about a week or ten days went to school. He was of a nervous lymphatic temperament, and complained of pain sometimes along the front of the thigh, and sometimes over the sacrum. His mother went to see him at the school, and finding the boy recovering but slowly, took him off to London, and consulted a Mr. Hutton of Gloucester-place. This lady, in writing to a friend, states that "Mr. Hutton at once pronounced the pelvis bone to be out of place, and said that her son must immediately undergo an operation; it was rather painful, but quite successful. Ice was ordered to the hip, and Mr. Hutton would go to Manchester in a week to see the patient. Immediately after the operation he walked briskly across the room with his usual gait." In a letter to myself this lady states that Mr. Hutton discovered "a displacement of the hip-bone, and consequent fall of the pelvis."

Not knowing who Mr. Hutton is, and being unable to find his name in the Directory, I addressed a letter to him to know what he had discovered in the case, as I know that patients often make mistakes in relating medical opinions and statements. In reply to my letter, Mr. Hutton states: "The nature of the case was *detatchment of the pelvis and hip*, caused by a fall or some such thing. This operation is a very peculiar one; it requires a side twist. I cannot explain, but should be delighted to show you."

I shall make no comment on the above opinion. I do not know who Mr. Hutton is, but evidently he is a surgeon of great talent in diagnosis.

I am, Sir, your obedient servant,

L. OWEN FOX, M.D., F.R.C.S.

Broughton, Winchester, July 29, 1873.

PROGRESS OF CHOLERA IN GERMANY.

To the Editor of THE LANCET.

SIR,—As I receive frequent inquiries regarding the progress of cholera in the centre of Germany, I venture to give you the information contained in a letter which I had yesterday from Professor Baeumler at Erlangen. The towns hitherto visited by cholera in Bavaria are Munich, Landshut, Passau, Ingolstadt, Nürnberg, and Würzburg. The latter place seems to be as yet the most westerly point reached by the disease.

The average daily number of new cases at Würzburg does not exceed 20 in a population of rather over 40,000, and during the last days there has been a decrease in the number as well as the severity of the cases.

At Munich the epidemic has been mild, the greatest daily access of new cases being only 38 for about 160,000 inhabitants. The mortality is up to this time about 37 per cent.

I am, Sir, your obedient servant,

Grosvenor-street, August 20th, 1873. HERMANN WEBER.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—The one cheering occasion in this depressing country is when THE LANCET arrives, and we see that we have a steady powerful friend in it to advance our just claims; but "would you be surprised to hear" that the much-talked-of and written-about Warrant of March 1st, 1873, is still, in the middle of July, a dead letter in India? Alas! it is only too true. Here, all of us lately promoted surgeons-major (April 1st, 1873) only draw the pay and allowances of assistant-surgeons, as most of us have been doing for many years past—namely, 451 rupees per mensem. We applied for the proper pay (825 rupees a month) of our new rank, which had appeared in the General Orders, gazetted, and confirmed in this country, but have been officially refused. "Disallowed" appears across our abstracts for pay and allowances, claimed each month—"as we are supernumerary to the fixed establishment of British medical officers." Now I wish I was an Indian medico, as they are at once made supernumerary after completing twelve years' service, and get the 825 rupees.

It strikes me and others that a really very pretty job has been perpetrated (at our cost), so as to give promotion simultaneously to about eighty of us youngsters (?). The majority of the batch are in India, and lots more are coming out in the first troop-ship. "India won't pay them, England has nothing to do with them, and no expense to the public is incurred by the pacifying *Gazette* of April 29th last!" Thus, no doubt, someone chuckles. I will not make a remark upon this little swindle, as it might be thought disrespectful, and nothing is further from my thoughts; but I vouch for the facts, as my empty pockets also verify, and ask you, Sir, to deal with them in your editorial columns. It may prevent some of the same batch of my brother officers being *too* sanguine when they get their orders for first "trooper." I can assure them that their present English pay and allowances are of much greater value than 451 rupees a month here, expenses of living having doubled in India lately.

Formerly, when we were promoted in this country, we were sent home if there were no vacancies. Now this is not to be done, but all assistant-surgeons (now called surgeons) who have been five years and upwards in India are to be sent *nolens volens* home, taken away from regiments and batteries, so as to create vacancies for recently promoted men, who will by this move be still nothing more than departmental subalterns.

Do expose this the latest shuffle, and help

India, July 21st, 1873. THE VICTIMS.

TUNNELING THE END OF URETHRAL INSTRUMENTS.

To the Editor of THE LANCET.

SIR,—I beg leave to state that the communication to THE LANCET of July 12th, 1873, page 63, bearing the above title, and signed "Honour to whom honour is due," contains misstatements which I desire to correct.

1. I never was "a student of medicine in Dr. Van Buren's office."

2. Dr. Van Buren had never seen tunneled urethral instruments until I made them known to him.

3. Dr. Van Buren stated to me, early in 1870, that he had never claimed to be the inventor of the tunneled sound or of any other tunneled urethral instruments.

I have the honour to be, very respectfully,

Your obedient servant,

J. W. S. GOULEY, M.D.,

Surgeon to Bellevue Hospital, New York, &c.

New York, August 9th, 1873.

THE "ASPIRATOR."

To the Editor of THE LANCET.

SIR,—You did me the favour to publish in THE LANCET of June 11th, 1870, a statement proving my right of priority to the invention of the Aspirator, or exhausting needle-trocar, which had been claimed by Dr. Dieulafoy, of Paris, who had taken out a patent for the sale of the instrument in London, although I had for two or three years previously exhibited it on several occasions in Paris as well as in England. I should not have troubled you again on the subject had not Dr. Dieulafoy's claim been renewed lately on the occasion of his reading a paper at the meeting of the British Medical Association. In the cause of truth and fair play I would ask you once more to permit me to refer your numerous readers to my former letter in THE LANCET, since it so clearly shows how groundless are Dr. Dieulafoy's pretensions, in the face of facts repeatedly brought before his notice and that of the profession.

I am, Sir, yours faithfully,

PROTHEROE SMITH, M.D.

Park-street, W., August 15th, 1873.

RAPID RECOVERY AFTER LITHOTOMY.

To the Editor of THE LANCET.

SIR,—My experience enables me to confirm your remarks in your last issue on the comparative frequency in India of rapid recoveries after lithotomy.

In 1862, when I was civil surgeon of Mozuffurgurh, near Mooltan, I operated upon a lad about sixteen years of

age by the usual lateral method. The urine was passed almost from the first by the urethra, the healing process was completed without any suppuration, and the patient discharged on the eighth day.

Upon comparing notes with others who had also operated extensively for stone in India, I found they had met with similar cases.—I remain, Sir, yours truly,

A. E. WAGHORN, M.D., Surgeon-Major.

Watford, August 25th, 1873.

DIGITALIS IN DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—With reference to the case of delirium tremens at Ramsgate alluded to in THE LANCET of August 23rd, I may say that I have seen digitalis, in four-drachm doses of the tincture, given in probably fifty cases in the practice of the late Mr. Jones, of Jersey. I have myself frequently administered the drug in the same dose in cases where opium had proved of no avail, directing that the patient should be kept in a recumbent position. I never saw any fatal case, nor indeed in my own practice any alarming symptoms that could be attributed to the drug.

I am, Sir, your obedient servant,

Leamington, August 25th, 1873. J. E. WOOD.

THE AUTUMN MANŒUVRES, CANNOCK CHASE.

(From our own Correspondent.)

DURING the past week there has been an extraordinary amount of rain even for the cloud-condensing moors of the Chase, and on Sunday night a thunderstorm of unusual violence broke over the camp; yet, from the natural drainage and porous subsoil, the ground keeps wonderfully dry. The most remarkable feature in the condition of the troops is the almost complete absence of bronchitic and other chest affections, the prevalence of which in such weather was to be anticipated. The same, however, cannot be said of the horses, as they evince the result of the expensive experiment of economising blankets by coughing in chorus through the night.

On the 21st inst. the infantry of the 1st division marched out a distance of about five miles, advancing over the last three as if in the presence of an enemy; camp was then pitched for three hours, and the brigades subsequently retired, covering their retreat. During this there was a good opportunity of observing the relative effects of the old knapsack and the new valise upon the various regiments respectively equipped. The men fortunate enough to possess the latter expressed themselves as much less distressed than heretofore, and well pleased with the change; while those carrying the knapsack showed the disadvantage at which they were placed. It is difficult to understand why there should be so much delay in replacing a portion of the soldiers' accoutrements which is as unsuited to the present rapid movements of war as Brown Bess would be to the rifle range.

A very simple but efficacious method of preventing men seeking to be carried in the ambulance for trivial reasons appeared in "Army Corps Orders," preceding this field day. Each company was directed to be provided with tickets as follows:—"The bearer (———) marched off with the regiment, but was unable to keep with it. Signed, ———, commanding —— Company." Each man falling out received one of these, and presented it to the medical officer, who, if he thought fit, countersigned it, and the man then awaited the arrival of the ambulance waggon. At the end of the day the non-commissioned officer in charge of the waggon returned these with the men to their different regiments, and thus each incapable man was again brought individually to the notice of the military and medical officers of his corps.

Owing to the absence of road marching there has been a great immunity from sore feet; and this, in some regiments, has been further secured by supplying to the canteens a small quantity of "dubbing"—a mixture of lard, resin, and bees-wax, which not only makes the boots waterproof, but renders them soft and pliable; this would form a useful addition to every soldier's kit, and would be a rational substitute for blacking on service. In consequence of a soldier-like rivalry amongst the men, there have been few applicants for carriage in the ambulances; had it been otherwise, the allowance of two horses to each would have been quite insufficient to drag such a weight over the pathless moors, knee deep in heather.

The rations have been punctually served and good, with the exception of the bread, which is often issued in a state intermediate between bread and dough.

Up to the present the Manœuvres have been a great sanitary success.

PARIS.

(From our own Correspondent.)

AT the last meeting of the Academy of Sciences, General Morin, Director of the Conservatoire des Arts et Métiers, read a very remarkable memoir on the ventilation of the barracks of France. The learned general, who is at the same time one of the most distinguished *savants* of this city, showed that the French barracks were very badly ventilated, the amount of air afforded to the soldiers being only ten to twelve cubic metres per hour; whilst in England he said it was seventeen cubic metres. This most important feature of the military hygiene in France was strenuously insisted on. The cutaneous emanations, added M. Morin, increased the danger of the presence of carbonic acid in excess in the barracks, and gravely compromised the health of the soldiers. There is no doubt that this, added to an insufficiency of the daily rations of meat, accounts for the wan and sallow looks of French soldiers generally, however lively and vivacious they may be. The General propounded various schemes for the amendment of this state of things. They tend to ensure proper ventilation for the soldiers' chambers and to obtain a complete renewal of the premises which they now inhabit, so as to avoid the diseases peculiar to military life and brought on by aggregation, and to lessen the prevalence of typhoid fever so often occasioned by vitiated air. On Baron Larrey's proposal, it was unanimously decided that General Morin's memoir should be sent with urgent recommendations to the Department of War. Before quitting the Academy of Sciences, I may just add that at the same sitting Professor Chevreul made known the results of the researches which he has been conducting for some time on the composition of guano. He briefly stated that this substance, so invaluable for agriculture, was composed, according to his examination, of ceric acid, carbonate of ammonia, phosphate of lime, and cerate of ammonia.

You, doubtless, remember the sensational discussions which took place here shortly before the war, both at the Medical Societies and in the general press, touching the extraordinary mortality among new-born children. The public were literally stricken with surprise, I had almost said with remorse, when it was found that 50 per cent. of the children born in Paris and sent out to be nursed in the country never returned to their parents. It was discovered that baby-farming was one of the blots of the country, a drain on human life here, almost a system of wholesale murder. Many valuable measures of reform sprang out of the public discussion of these facts. Societies for the protection of childhood were instituted, books and pamphlets were distributed, and a system of surveillance organised over the baby-farms of the land. One of the excellent results of this "movement," or agitation, was the nomination of an administrative committee, composed of members of the Municipal Council of Paris and of Government officers, and appointed to watch over the proceedings of the "bureaux," or offices of wet-nurses which exist here, and which are private establishments offering wet-nurses to those who may want them. There are two descriptions of wet-nurses to be found in these institutions; some offering to suckle the children in their parents' houses in Paris, others to take away and nurse the children in the country. The amount of infant life destroyed in this latter way, the country wet-nurses neglecting or starving the children, was something enormous. At present, an active supervision is

exerted in the offices by the members of the committee. Frequent visits are made to the bureaux, and a register is kept of the number of children sent; whilst the best references are exacted from the nurses. Moreover, an active correspondence is kept up with the police or municipal authorities of the respective localities where the country wet-nurses reside. The consequence is that during the last quarter it has been reckoned that the mortality has decreased from 50 to 30 per cent. The importance of this result will be realised on remembering that, out of 55,000 children born every year in Paris, upwards of 20,000 are sent into the country to be nursed. The ideal has certainly not yet been attained, but still the improvement is considerable, and well worth being noted.

The consumption of horse flesh is rapidly increasing in France. During the first half of the year 1867, 893 horses or mules were slain for consumption and afforded 320,000 lb. of meat; during the corresponding period of the present year, 5186 animals have been slaughtered, affording about 1,800,000 lb. of meat for public consumption. This is an enormous increase, and the utilisation of horses unfit for work, but thoroughly healthy, and not worth more than about £4, will, it is reckoned, increase the public wealth by 400,000,000 of francs.

Paris, August 27th, 1873.

Medical News.

ARMY MEDICAL SERVICE. — The following is a list of gentlemen who competed successfully for appointments as Surgeons in the above service at the examination held at the London University on Aug. 11th:—

	Marks.		Marks.
Langridge, G. J. ...	2318	Thomsett, R. G. ...	1900
Fowler, B. W. ...	2219	M'Quaid, P. J. ...	1868
Webb, W. E. ...	2145	Tobin, J. J.	1685
Gubbins, W. L. ...	2090	Spencer, F. H... ...	1660
Wood, O. G. ...	2005	Ring, I.	1640
Mapleton, R. W. ...	1905		

INDIAN MEDICAL SERVICE.—The following is a list of candidates who were successful at the competitive examination for appointments in the Service held at Burlington House on Aug. 11th:—

	Marks.		Marks.
Willcocks, A. J. ...	2195	M'Kay, H. K.... ...	1825
Moloney, J.	2076	Wilkins, J. J. H. ...	1715
Swaine, F. R.... ...	1980	Bartholomewss, M. L.	1390
Deakin, C. W. S. ...	1922	Thompson, P.... ...	1310
Allison, H.	1920	Ross, R. C.	1245
Collis, J. G.	1891		

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Aug. 21st:—

Day, Edmund Overman, Hemel Hempstead.
Rodwell, Thomas Harry Bate, Lodden, Norwich.
Smith, Thomas William Toone, Austry, Warwick.
Watson, Chas. Russell, Sydney, New South Wales.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Crétin, Eugène, St. Bartholomew's Hospital.
Mason, Samuel Butler, London Hospital.

OBSTETRICAL SOCIETY.—The library of this Society will be closed from September 1st to September 13th, both days inclusive.

BORDER MEDICAL ASSOCIATION DINNER. — The annual dinner of this Society took place at the Queen's Head Hotel, Kelso, on Wednesday, the 20th inst. After the disposal of some business, the party sat down to dinner. Dr. Jeffrey, Jedburgh, was chairman, and Dr. Cahill, Berwick, croupier. Dr. Arthur Gamgee, of Edinburgh, was present.

PRESENTATION.—Mr. Alexander Comrie, of Blaenavon, Monmouthshire, who has been assistant-surgeon at the iron and steel works there for the last two years, was recently presented by the inhabitants of the district with a farewell address, handsomely engrossed on vellum, and a purse of 50 guineas, as a mark of their high appreciation of his professional services. The subscriptions were mainly contributed by the working men, and, considering the short time Mr. Comrie had been labouring amongst them, such an expression of public feeling at his departure must have been very gratifying to him.

Medical Appointments.

ARMSTRONG, L., M.R.C.S.E., has been appointed Medical Officer of Health for the Dawlish and Wolborough Urban, and Newton Abbot Rural, Sanitary Districts: £400 per annum for two years.

BAKER, J. W., M.R.C.S.E., has been appointed Medical Officer to the Derbyshire Gaol, Derby, vice Gisborne, resigned.

BROWNE, D. G., M.D., has been appointed Medical Officer for the Headcorn District of the Hollingbourn Union, Kent, vice Skinner, resigned.

COWLEY, J. S., M.R.C.S.E., has been appointed Medical Officer of Health for the Upton-on-Severn Rural Sanitary District: £100 for one year.

DIXON, J. F., L.R.C.P.L., M.R.C.S.E., has been appointed House-Surgeon to the Clayton Hospital and Wakefield General Dispensary, vice Marriner, resigned.

ELLISTON, G. S., M.R.C.S.E., has been appointed Medical Officer of Health for the Ipswich Urban and Port Sanitary Districts: £125 and £25 for one year.

EWART, J., M.R.C.S.E., has been appointed Assistant-Surgeon to the Derby Amalgamated Friendly Societies' Medical Association.

GRAHAM, A. F., M.D., M.R.C.S.E., has been appointed a Hon. Surgeon to the Northern Hospital, Liverpool, vice Nash, resigned.

HARRIS, M., M.B., M.R.C.S.E., has been appointed Demonstrator of Anatomy at the Liverpool Royal Infirmary School of Medicine.

HORNIBLOW, W. R., M.R.C.S.E., has been appointed Medical Officer for the North District of the Parish of St. George-in-the-East, vice Sutcliffe, resigned.

KEENE, F., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Referee for the Chelmsford District of the Essex Provident Society.

LISTER, C. H., M.R.C.S.E., has been appointed Medical Officer for the Doncaster East District of the Doncaster Union, vice Fairbank, resigned.

MADDISON, W. P., M.R.C.S.E., has been appointed House-Surgeon to the Memorial Hospital, Jarrow-on-Tyne, vice C. Jervis, resigned.

MILLIGAN, W., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the Brassington District of the Ashbourne Union, vice Cantrell, resigned.

NEWBY, C. H., M.R.C.S.E., has been appointed Resident Accoucheur at St. Thomas's Hospital for the ensuing three months.

SHEA, J., M.D., M.R.C.S.E., Medical Officer of Health for the Reading Urban and Rural Districts, has been appointed Medical Officer of Health for the adjacent Sanitary District of the Wokingham Union.

SHEARMAN, W. M., L.R.C.P., has been appointed Medical Officer of Health for the Swinton and Pendlebury Urban Sanitary District, vice Farr, deceased: £50 per annum.

WAGSTAFFE, W. W., F.R.C.S.E., has been appointed an Assistant-Surgeon to St. Thomas's Hospital, vice Mac Cormac, promoted to Surgeon.

WELSH, A., M.D., has been appointed Medical Officer for the Whitworth District of the Rochdale Union, vice Turner.

Births, Marriages, and Deaths.

BIRTHS.

DALY.—On the 20th inst., at Queen's-road, Dalston, the wife of Frederick H. Daly, M.D., of a daughter.

DUNLOP.—On the 22nd inst., the wife of Andrew Dunlop, M.D., of St. Helier's, Jersey, of a son.

GROVES.—On the 21st inst., at Francis-street, New Leeds, the wife of Edward Groves, L.R.C.P., M.R.C.S., L.M., of a daughter.

SHEPARD.—On the 19th inst., at Ty Cornel, Usk, the wife of Alexander J. Shepard, M.R.C.S., of a daughter.

WOOD.—On the 13th ult., at Ranchi, Chota-Nagpore, Lower Bengal, the wife of Julius J. Wood, M.B., C.M., Indian Medical Service, of a daughter.

MARRIAGES.

BEVERLEY—HOTBLACK.—On the 21st inst., at the Church of St. Peter-per-Mountergate, Norwich, Michael Beverley, M.D., of St. Giles'-street, to Marian, eldest daughter of John Hotblack, of St. Faith's House, Norwich.—No Cards.

EDWARDS—PAYNE.—On the 21st inst., at Birdbrook, Essex, Frank Edwards, L.R.C.P.Ed., L.S.A.L., of Furneaux Pelham, Herts, eldest son of Thos. Edwards, of Wixoe-park, Suffolk, to Alice, eldest daughter of Henry Payne, Esq., of the Moat, Birdbrook.

LAW—BELL.—On the 20th inst., at St. John's Episcopal Church, Edinburgh, Alfred Robert Law, M.D., M.R.C.S., of Richmond, Surrey, to Charlotte Elizabeth, elder daughter of William Bell, Esq., of Melville-street, Edinburgh.

PEARSON—CROWTHER.—On the 20th inst., at Alford, from Hanby Hall, the residence of E. L. Crowther, M.D., Mr. James Pearson, of West House, Congleton, to Victoire Marie Louise, eldest daughter of the Hon. W. L. Crowther, of Hobart-town, Tasmania.

SAUNDERS—GRIER.—On the 27th ult., at Clifton, Laurence Saunders, M.D., M.R.C.S.E., L.R.C.P.L., of Cambridge-terrace, Stapleton-road, Bristol, to Ellen, only daughter of Thos. Grier, Esq., of Cheltenham.—No Cards.

TUNNER—HAYMAN.—On the 21st inst., at the Parish Church of Old Cleeve, Somerset, James Robert Tunner, Esq., of the Paragon, New Kent-road, London, to Bessie, younger daughter of the late John Hayman, Esq., of Hungerford House, Washford, Somerset.

DEATHS.

COOPER.—On the 22nd inst., Wm. Cooper, M.D., late of Bury St. Edmunds, formerly of Norwich, aged 56.

HART.—On the 22nd inst., Wm. Hart, M.R.C.S.E., of Brighton, formerly of Dorking, aged 76.

HAYLES.—On the 23rd inst., Geo. Hayles, M.R.C.S.E., of Alresford, aged 72.

KETT.—On the 14th inst., W. Keil Kett, L.S.A.L., of Hollesley, near Woodbridge, Suffolk, aged 77.

TRAILL.—On the 16th inst., R. J. Traill, M.D., of Collaroy, New South Wales, aged 58.

WALTHEW.—On the 18th inst., Wm. Walthew, M.R.C.S.E., of Holyhead, aged 71.

Notes, Short Comments, and Answers to Correspondents.

MORAL LIFE-BOATS.

HIS GRACE the Duke of Northumberland presided on Wednesday at the annual meeting of the supporters of the training school ship *Wellesley*, which has on board 340 destitute boys. The audience assembled on the ship's deck on the Tyne. The boys evoked universal admiration for their healthy and cheerful appearance. As a means of recruiting not only our navy and mercantile marine, but our centres of skilled labour both at home and in the colonies, these rescued children will be more and more available; while crime, whether juvenile or even adult, will diminish in the same ratio. These training-ships may be regarded as an effective branch of that great "health system," moral and physical, which it is now the statesman's paramount duty to promote. Would that they were equally well represented across the Channel, where the Assize Court at Paris the other day passed sentence on a gang of young malefactors, known as casquettes noires (black-caps), who were convicted of numerous robberies with violence. The ring-leader, aged sixteen, was sentenced to twenty years' imprisonment in the House of Correction; the others were sentenced to terms of imprisonment from fifteen to ten years.

THE communication of *Mr. Macfie Campbell* shall appear in an early number.

THE FUTURE SANITARIUM OF THE UNITED STATES.

To the Editor of THE LANCET.

SIR,—I hope you will consider the following account of a sanitarium for the United States worthy of publication.

The climate of North America, exclusive of Mexico, is generally known to be one of extremes, causing a large number of pulmonary and throat complaints. In Texas, in the South, sudden blasts of cold "northers" kill young animals and wither up growing crops; whilst last winter men and horses were found frozen (all standing) in Wisconsin, in the North. When I passed through New York in the first week of July last year, from seventy to eighty persons were struck down daily by the sun, and even the horses were observed dead or dying in the streets. It is not then to be wondered at that many of the inhabitants of the Eastern States are looking about them for a better climate in their own country, and this fortunately is met with in Southern California, within six days' travel by the Pacific Railway.

That long strip of country lying between the Rocky Mountains and the Pacific Ocean, extending from Puget Sound to San Diego (in N. lat. 33°) enjoys a climate peculiar to itself. Within thirty miles of the sea it is singularly temperate all the year round. A cold current of air flows down the coast from Alaskas during the summer months; whilst in the winter season this is generally replaced with south-easters or variables. That portion of Southern California lying between Santa Barbara and San Diego (from 36° to 33° N. lat.) enjoys a climate which for softness, dryness, and equality of temperature is altogether unrivalled. Professor Bennett says: "Much has been written of climate; but the one which appears to be best is that which will enable the patient to pass a few hours every day in the open air, without exposure to cold or vicissitudes of temperature on the one hand, or extreme heat on the other." This is exactly the climate I am introducing to your readers. To those who know that of Auckland, New Zealand, of which I have had many years' experience, no higher praise can be given the one I am now speaking of than to say that it is drier and even more equal. By way of comparison I give the monthly mean of three places, Torquay being given as a starting point.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Torquay	43°	41°	45°	50°	54°	61°	62°	61°	57°	53°	48°	47°
Auckland	68°	67°	64°	60°	54°	51°	49°	51°	53°	56°	60°	63°
Santa Barbara ...	51°	55°	57°	58°	63°	68°	69°	69°	65°	64°	56°	54°

Rain falls only in the winter, with rare exceptions. Thunderstorms are very uncommon. The fall of rain is in a diminished ratio as we proceed southwards. At Santa Barbara and Los Angeles it is about 18 in.; at San Diego, 10 in.

The city of Los Angeles, where I have recently resided, is charmingly situated, about fourteen miles from the sea, at the head of a widespread valley, and is surrounded by vineyards and orange groves. The town is abundantly supplied with water; and from the mildness of the climate and the nature of the cultivation (by irrigation), fruits and vegetables are obtainable all the year round. In London there are about 60 unclouded days; in New York, 100; at Los Angeles, 240. Every comfort can be obtained here, and the Pico Hotel would be a conspicuous ornament to any city. There is a good library and reading-room, small theatre, a beautiful neighbourhood with good roads, and an unlimited number of livery stables, where horses and carriages may be hired at reasonable rates. I mention this, as many invalids have been sent to pine away in foreign places, where there are neither the comforts of life nor any rational recreations. San Diego, farther to the south, enjoys a similar climate; but, being immediately on the sea, the summer temperature is about 3° lower than at Los Angeles, the July temperature being as 72° to 75°.

This portion of California is rapidly becoming the "Madeira" of the United States. The atmosphere is drier, more elastic, and more enjoyable than either that of Madeira or Florida. Numbers of invalids wintered in it last season, and a considerable influx is certain to take place in October next.

As the journey from England to Southern California can be conveniently done in nineteen or twenty days *viâ* San Francisco, it appears to me to be well worthy of consideration whether such a country, with English-speaking people, is not far preferable to many of those places on the Continent, with their hot summers, foreign language, and foreign discomforts.

Yours truly,

Axminster, August 16th, 1873. HENRY WEEKES, F.R.C.S.

LICENCES IN MIDWIFERY AND THE MEDICAL DIRECTORY.

A CORRESPONDENT sends us part of a correspondence between himself and Dr. Haldane, of the Edinburgh College of Physicians, and the Editors of the Medical Directory. Dr. Haldane says that as the certificates of Midwifery granted by the Colleges of Edinburgh are not mentioned in the Schedule of the Medical Act, they are not qualifications, and cannot be registered. The Editors of the Medical Directory say that as it is so generally known that these licences and those of the Dublin hospitals are only certificates of knowledge, and not registered qualifications, few persons are misled by them, and they see no reason for excluding them. There is, nevertheless, a good deal to be said for excluding them. They have no legal value, and they convey a false idea that the holder has some exceptional knowledge of midwifery. It would be as reasonable to insert a licence in Ophthalmic Surgery on the strength of a course of teaching at an ophthalmic hospital involving examination.

A. B.—It is contrary to our practice to do anything of the kind. Let our correspondent consult some respectable practitioner in his own neighbourhood.

Senex is probably the best judge of what his charge should be.

SLAUGHTERED INNOCENTS.

To the Editor of THE LANCET.

SIR,—Mr. Mundella's Bill has been relegated to the parliamentary limbo for slaughtered innocents. There is, however, another class of real flesh and blood slaughtered innocents remotely affected by that Bill, upon whose behalf, with your kind permission, I would make an earnest appeal.

One of the arguments in favour of the Bill is, that by allowing the factory women a reduction of half an hour in a working day, the result would be some diminution of the present enormous mortality amongst infants in manufacturing districts; but I submit that the effect of half an hour a day would be microscopic in its bearing upon the infantile death-rate, which is so large, from 50 up to—I have read, but can scarcely believe—90 per cent. under one year of age in some districts, that it clearly indicates something rotten in the whole arrangements; for if the children were deprived of their mothers altogether, and reared entirely by hand, the mortality ought not to exceed a quarter of the first-named percentage. Can nothing be done to prevent this fearful sacrifice of that which ought to become the bone and sinew of our country? It seems to me much might and ought to be done, and that easily.

The real cause of all this waste of life is due to the fact that the infants are left at home to the tender mercies of some elderly woman, who, being utterly unaware that children until they get some grinding teeth are, and physiologically ought to be, unable to digest starch food, endeavours to console the infant for the loss of its mother during the day by filling it with boiled bread, gruel, ground rice, &c., to its certain destruction if given in sufficient quantity.

The remedy I would suggest is the setting apart in every factory of a room as a *crèche* or nursery, in which the mothers could leave their babies of a morning, perhaps suckle them at meal-times, and take them away at night; a nurse or nurses to look after them during their mothers' absence, and a plentiful supply of good milk. If the manufacturer found the room, the cost of the nurse and milk would easily be covered by a small daily payment by the mothers.

By giving insertion to this letter, some one of the kind and generous masters of the north may thereby be induced to make the experiment, and, if so, I am certain his success would be so conspicuous that the others would be soon stimulated to follow his example.

I am, Sir, your obedient servant,

Putney-hill, August 5th, 1873. SELBY NORTON.

THE MEDICAL PROFESSION AND LIFE ASSURANCE COMPANIES.

WE are asked by the Directors of the British Empire Mutual Life Assurance Company to state that they have decided to alter the scale so as to include under the guinea fee the examination of proposals for £250 and upwards. Half a guinea, as heretofore, will be the fee for proposals under that amount.

W. N.—Our correspondent would be guided in such matters by the ordinary principles of surgery and physics. We are not aware of any book which is devoted specially to such a subject.

A Subscriber.—Apply to the Secretary, Apothecaries' Hall.

THE ADMINISTRATION OF CHLOROFORM IN FATTY DEGENERATION.

To the Editor of THE LANCET.

SIR,—In your critical comments upon the case of Lambe *v.* Bennett and Barton (THE LANCET, August 2nd), you remark that "the only condition in which chloroform proves dangerous is that of fatty degeneration, which is always difficult and generally impossible to diagnose." We are, I believe, indebted to Mr. Canton and Sir J. Paget chiefly for showing how frequently, if not constantly, fatty degeneration is found in the tissues, and so of the heart, when shown in the cornea as arcus senilis, sometimes the arcus being observed in very young subjects. Is it not, then, the duty of all, before giving chloroform, to carefully look for any degree of arcus senilis? Its presence should contra-indicate the administration, as being at least eminently dangerous.

Your obedient servant,

Newark-upon-Trent, August 5th, 1873. JOHN MARSH.

To the Editor of THE LANCET.

SIR,—The advisability, not to say the necessity, of having the stomach empty before administering chloroform is universally urged in books; but the absolute necessity of giving a good dose of some stimulant—nothing better than brandy-and-water, I believe—is not, I think, sufficiently inculcated. When we consider the depressing effect of anticipating an operation, and that the patient has perhaps been without his usual amount of food for some hours, there is no wonder that now and then chloroform should prove fatal. Perhaps practically the point I mention is attended to more than I suppose; but certainly it is not urged as an important point in books.

I am, Sir, yours truly,

Donnington, August, 1873. E. W. JOLLYE.

ITALIAN HOSPITALS FOR SCROFULOUS CHILDREN.

ITALY contains seventeen establishments for the treatment of scrofulous children. Of these, seven are hospitals or asylums properly so called, situated (as indeed all are) on the sea-shore, as at Venice, at Viarezzio, and San Stefano in Tuscany, Voltri on the Riviera at Genoa, and Rimini in the Romagna. Besides these, there are ten localities (also maritime) which have established in the convents and municipal houses special asylums for the scrofulous, whence the patients are brought down by vehicle to the sea. The hospital at Rimini is under the charge of Dr. Matteucci (a relative of the distinguished electro-physiologist) and his wife, and numbers no fewer than 175 children, boys and girls. These youngsters are all afflicted more or less with scrofulous diseases; some of them with the most horrible sores in the neck, the cheek, the groin, and the foot. The recoveries they make are remarkable. Under the treatment (sea-baths and restorative regimen) the sores shrink almost perceptibly from day to day, and their edges become less and less inflamed. One little fellow, who on arriving could barely hobble on crutches, in some ten days' time could walk unassisted, and move along the sea-sand with something like agility. These hospitals are unknown in France as well as among ourselves; but the good they have done in Italy well warrants a trial of them elsewhere. Dr. Matteucci receives from the parents and municipal guardians of his little patients a monthly *honorarium* of 75 fr., or 2 fr. 50 c. per diem. For that sum they are comfortably kept, have four meals a day, and are vigilantly nursed; the female attendants, under Madame Matteucci's direction, receiving, as they well merit, the pet name of "vice-mamans."

H. D. might try the effects of arsenic and cod-liver oil, combined with attempts at improving the patient's nutrition at the same time.

A Medical Student's communication shall be noticed next week.

COCOA AND ITS PREPARATIONS.

To the Editor of THE LANCET.

SIR,—The subject of cocoa and its so-called adulterations being a topic exciting considerable interest at the present time, we think we may fairly trespass on your space to state our views on the matter, both on account of its hygienic importance, and also in common fairness to a large and honourable industry, upon which an unmerited charge of fraud has been cast in your columns.

Cocoa holds an exceptional position amongst our foods, being of value as such in several different ways. Its most prominent ingredient is cocoa butter, which, being the only fat which does not become rancid, is the most valuable of our carbonaceous foods. Drs. Miller and Letheby, amongst other authorities, indeed state that its chief value is due to this substance, and this must be pre-eminently the case when used by phthisical patients. Next in order of prominence we note the nitrogenous substances contained, the existence of which in so large a proportion has led to a comparison of this food with milk. But, in addition to these two elements, cocoa is also rich in phosphates, and, containing the alkaloid theobromine, ranks, like tea and coffee, as a nerve stimulant. The cocoa bean, pure and simple, is all but useless to the public as an article of food, on account of the great amount of preparation required before being fit for use. To this is due the fact that the cocoa- or chocolate-nut is rarely sold in the shops, and hence the terms cocoa and chocolate have in general parlance been applied only to the manufactured article. Those preparations in cake and only the finer kinds of mixed cocoa powders having been called chocolate; while the word cocoa has been applied to the coarser and commoner preparations, and only of late years to those more skilfully prepared.

That the public have never been under the delusion, when buying prepared cocoa powders, that they were buying the cocoa-bean pure and simple is amply shown by the various names under which cocoa is asked for, according to the form in which it is desired. The only forms in which cocoa pure and simple is sold in the shops are the roasted cocoa-nuts and flaked cocoa. Then, as preparation advances, we have cocoa-nibs and ground and flaked nibs. None of these forms of cocoa, although they have been accessible to the public almost from the time when raw cocoa was first imported, have ever found great favour—a fact evidently due to the time and trouble needed to prepare beverages from them, and to the unsatisfactory nature of the result when done; the cocoa either being wasted by the fat being skimmed off, and the grounds (that is good cocoa, for it must be borne in mind that nearly the whole of the cocoa-nib is nutritious, and when properly prepared digestible) thrown away; or when not wasted thus, indigestion being caused by taking so concentrated and rich a food. It was to obviate these inconveniences, which so greatly restricted the use of what Mr. Dunn perceived to be a most valuable food, that led him to his investigations and experiments which gave "soluble cocoa" to the public: the result being that, from a consumption of 276,321 lb. in 1820, it has progressively increased to 4,470,372 lb. for the first six months of the present year, equal to nearly nine millions of pounds per annum. The term "soluble" was adopted, not in its strictly scientific, but in its popular sense—viz., to imply ready miscibility in boiling water without the need of additional boiling; this being the characteristic which distinguished Mr. Dunn's preparations from those then in vogue. These preparations were never represented as being unmixed cocoas, and in the earliest advertisements credit is taken for the ingenuity of the mode of combination of sugar and arrowroot, rendering the article more convenient and wholesome. As years advanced, and our firm had to guard itself from unfair competition, a statement of what the cocoa powder consisted of was made on many of our labels, and was only omitted in others (chiefly the better goods) where, competition not being so keen, the need of protecting ourselves was not so great. We think these facts sufficiently show that no imputation of misrepresentation or fraud (which is the basis of the Adulteration of Food Act) can hold in regard to unadulterated soluble cocoa powders (i. e., consisting of cocoa, farina, and sugar). But in further proof of our position that prepared cocoas have been always recognised as manufactured or mixed articles, we would point to the 3rd Geo. IV., c. 53, being an Act to regulate the "Manufacture of Cocoa Paste, Broma, and other Mixtures and Preparations of Cocoa with Sugar and Arrowroot flour or other Farinaceous Powder"; thus the State itself being a *particeps criminis* if these preparations be fraudulent. And this distinction of manufactured cocoa as a mixed article is still recognised by the Custom's tariff, the duty on cocoa paste being 2*d.* instead of 1*d.* per lb., as on raw cocoa. Dr. Normandy, than whom there was no more determined enemy of adulteration, in his Commercial Handbook of Chemical Analysis, p. 178, thus defines: "The preparation known as cocoa powder or chocolate powder, when genuine, consists only of cocoa-nibs, sugar, and arrowroot." Amongst many other scientific authorities who fully recognised as legitimate this mode of preparation, we would only mention Pereira, Lankester, W. T. Brande, F.R.S., Cooley, and Letheby. Of popular authorities, whose name is legion, we would name Johnstone (Chemistry of Common Life), Webster's, Tomlinson's, and Chambers' Cyclopædias, and Cassell's Household Guide. To these authorities, popular and scientific, we will add that of THE LANCET itself, which, when reporting on our exhibit in the International Exhibition of 1862 (all our manufactured cocoas being then prepared with sugar, or sugar and farina), thus speaks of them: "There can be no question about the superiority and general excellence of the cocoas and chocolates contained in their (Dunn and Hewett's) case." And, finally, we would point to Mr. D'Eyncourt's decision given after a lengthened and most painstaking investigation, extending over three hearings; and to the fact that the prosecution refused to appeal against the decision, although challenged and indeed desired by us to do so.

There never having been any secrecy as regards our manufactures, we have nothing to hide, and on all our packet goods we state generally of what they consist; but the poor for economy's sake buy what is called loose cocoa, and we think it a gross injustice to drag a respectable tradesman—almost as a criminal—before a magistrate for selling what Parliament, the Government, writers scientific and popular, and finally the public, have recognised and known as a manufactured article; forsooth, now alleged to be adulterated with the substances *necessary* to make it what it is, "soluble cocoa." The great danger of such ill-advised and vexatious prosecutions is either that the Adulteration of Food Act may be swept away altogether, or, by becoming a dead letter, be equally useless against the real and abominable adulterations practised; by attacking which scientific men might cover themselves with glory, instead of making themselves ridiculous by attacking a mixed but staple food of the people, such as prepared cocoa.

In your journal of the 19th ult. you state that the plea that "cocoa to be soluble must be mixed with sugar and starch" has "long been disproved"; and in your issue of the 9th inst., that "the statements that cocoa cannot be powdered without the addition of another substance is contrary to fact." Permit us to remark on the latter statement first. Cocoa-nuts and cocoa-nibs can be ground alone; but the result is either flakes or a very coarse powder, such as a skilled manufacturer would hardly recognise as such. These two forms of cocoa, as already mentioned, have been known in the trade and sold for years, although but in small and gradually decreasing quantities. In no other form can a cocoa powder be produced unless by the addition of some other substances, as sugar and farina, or, on the other hand, by the abstraction of a great part of the natural fat; and if the first of these plans constitutes a fraud, the second is equally so (that is, if recent decisions in the case of milk vendors fined for abstracting the cream hold good). But this position is an absurdity; for the fact is that in each case the consumer knows perfectly well what he is buying, even in the case of the cheapest and poorest of mixed cocoas, unless, for purposes of fraud, foreign flavouring or colouring substances have been used to make the article appear better than it really is—a form of adulteration practised even in cocoa powders prepared by the latter process, and which should in both cases be severely dealt with. With regard to the former statement, that cocoa can be rendered soluble without mixture with sugar and starch, the writer has evidently used the word in its popular sense. This being so, we must entirely dissent from his statement. As the manufacturers of two forms of pure cocoa deprived of its butter, both of which have received the highest encomiums of the medical press, we may claim some experience in the matter; and we assert that, without any exception, all this class of preparations require boiling, or else, unless perpetually stirred, a great part of the cocoa sinks to the bottom of the cup, and, instead of being used, is thrown away. The only way in which cocoa can be rendered "soluble"—that is to say, really emulsive—is by admixture with sugar or sugar and farina.

We will conclude by mentioning that Dr. Ure, who was appointed by Government to investigate for them the manufacture of cocoa, after an independent and elaborate series of investigations and experiments, arrived at a similar conclusion to that formed by Mr. Dunn some years before, and he made and recommended for the use of the navy a chocolate mixed with sugar and farina. This fact added to those already adduced will, we trust, show conclusively that the process of cocoa manufacture rests on a more honourable basis than that of "Simpsonising" milk.

We are, Sir, your obedient servants,

Pentonville, August 14th, 1873. DUNN AND HEWETT.

A Subscriber to THE LANCET.—The College Charter of 1852 authorised the Council to elect to the fellowship without examination members of the College dating not later than 1843, who at the time of election were of fifteen years' standing.

Mr. Jonas Loake's (Ramsgate) communication with reference to the recent case of delirium tremens shall be published next week.

RETIRING ALLOWANCES ACT.

THE enclosed extract from the *Derby Reporter* of the 15th instant seems to show the need of making the Retiring Allowances Act compulsory on guardians.

"BAKEWELL BOARD OF GUARDIANS.—The meeting of this Board on Monday was presided over by Lord George Cavendish, M.P. Dr. Cantrill, of Wirksworth, applied to the Board to be allowed a retiring allowance, he having been medical officer of the Cromford district for a period of thirty-four years, and now compelled to resign in consequence of bodily infirmity and threatened blindness. After some discussion on the question it was put to the vote, when the result was one for, and forty-one against it."

Geo. Poole, M.D. Erlangen.—The title may be used if it is specified. It does not constitute a legal qualification in medicine. The use of the title M.D. without qualification, would imply a British degree, registerable and qualifying for practice.

EPSOM COLLEGE.

Mr. Thos. Taylor (Barking) wishes the writer of the letter signed "Oxonian and an Old Epsomian" to communicate with him.

A HINT FOR MEDICAL PUBLISHERS.

A CORRESPONDENT asks whether it would not be possible to organise a strike against the publishers of medical books to compel them to improve the binding. "And why should they be sent out uncut? The cost of cutting cannot be an object; for the New Sydenham Society publish the cheapest books, and they are well bound, the leaves cut, and have coloured edges."

A Subscriber to THE LANCET will see that the suggestion is anticipated in this week's issue.

Mr. Joseph Clegg (Epping) is thanked for his letter.

DIARRHŒA AND DYSENTERY IN CHILDREN IN THE SUMMER MONTHS.

To the Editor of THE LANCET.

SIR,—As the time is fast approaching, if indeed it has not already come, when the yearly holocaust of infantile life is offered at the shrine of old principles and customs which have long outlived their day, I venture to ask the attention of my professional brethren, of parents and of others engaged in the rearing of young children, to a few observations, which will, if accepted and followed, materially diminish the losses we yearly have to deplore among that tender class of patients.

It is a fact as fully established as any other in the history of disease that in this country, when the summer heats become intense, diarrhœa and dysentery appear among children, and destroy many lives. When summer is entering into autumn and in autumn itself the same observation holds, but arising from a somewhat different cause, which for the present we may pass by. The summer heat produces great congestion, especially of the whole alimentary canal, which is proved by the frequent discharge of blood and the constant protrusion of the bowel, and nature seeks to relieve herself of this abnormal condition by the aid of diarrhœa. The opposite of heat is cold, and the obvious cure of the effects of heat on the human body should be those of cold, and my object is to prove that this is exactly so. At present no sooner does an infant become affected with diarrhœa and what is called dysentery—i. e., diarrhœa with effusion of blood—than it is ordered to be wrapped in flannel, constantly hot bathed, and poulticed with hot linseed over its abdomen, hot drinks are administered, and every means taken to keep up the temperature of the child's body. I dare not venture to say that this is the invariable practice of those who have the treatment and care of children; but it is so general that I believe myself to have ample warrant for its assertion, as during an experience of eleven years as a registrar of births and deaths in one of the best parishes in London (that of St. James's, Westminster) I have never known a single instance in which the treatment above described has not been pursued with children who have died of these diseases in the summer months. The average annual number of such deaths in my sub-district, spread over a number of years, is about 9, which would give in the 124 sub-districts of which London is composed 1116 deaths. From this number must be deducted those infants in whom life is, as it were, so loosely fastened that at the slightest shock it separates and departs. This would make perhaps 8 or 10 per cent., the remainder being an entire and unnecessary waste of human life. A child of any age seized with diarrhœa at this season should be stripped of all its clothing except a napkin; should be kept perfectly dry on a hair mattress and sheet; should never be taken in arms; should be bathed in ice-water after every motion; should get ice-water with, if very weak, a few drops of brandy to drink. Its milk should be iced or mixed with ice-water; and on the cessation of the diarrhœa, which immediately ensues, the child is greatly comforted, and its recovery hastened, by an appropriate dose of laudanum, chloric ether, and ammonia at the usual intervals. Where the attack is so sudden and so violent as to endanger life, especially in very tender infants, ice-water injections have an excellent effect. The obstinate vomiting which sometimes complicates these cases entirely ceases; nor did I ever once see a child eject its food while under this treatment. In fact, the disease immediately acknowledges its antidote, and more or less quickly disappears; and I say that after an experience of twenty years no harm has ever followed from this treatment, but that in every instance where the child has been of a strong and healthy constitution it has been successful. Two cases follow which will illustrate the above observations.

A year ago a young lady relative sought my hospitality, driven, as she said, from the house of a friend whose agony she was unable to witness at the immediately expected death of her first-born, an infant of seven months old. A hospital physician and a general practitioner were in attendance for several days, and had that morning formally given the child up. The young lady at once returned, charged with my advice. The patient was immediately put into a bath, half water half ice; iced-water with a little brandy was administered. The diarrhœa stopped; and the child, except for the weakness, was to all intents well the next day, and has continued so to the present.

An infant of a month old, whose mother I delivered, was seized a few weeks since with intense vomiting and purging. The same treatment with frequent iced-water injections dissipated every bad symptom, and the child recovered in a week, but not perfectly till the mother and nurse at length recognised the necessity of refraining to keep the child in arms for hours together. It is now well.

In my mind this is not a doctor's question at all. No medicine whatever is required. If the mother, the nurse, the attendant, knew that an infant should be stripped of its flannels when the intense heat of summer appeared, should cease to be smothered in blankets, should be laid on a mattress after suckling, should be dipped into a cold bath the moment diarrhœa came on (which would become a rare and exceptional case), and persevered in till it ceased—should such knowledge, in a word, become part of the education of the people, as physiology actually is now, what is to prevent death from this cause from entirely ceasing, not only here, but all over the world? I answer, nothing whatever; it would cease. Recollect that it is nature that is here restoring herself, and that she is not depending on the action of drugs or chemicals or systems, whose results show, and have ever shown, so unsatisfactory a result.

A well-founded diffidence has hitherto withheld me from enlarging on the influence of temperature, climate, &c., on disease further than by a few disjointed notices in colonial journals; but the subject is so important, and the medical public is becoming so imbued with the desire for investigating the origin of diseases, that the views of even so humble a labourer in the cause may be considered worthy of investigation.

I remain, Sir, yours obediently,

J. W. MACKENNA, M.D.

Great Marlborough-street, Aug. 19th, 1873.

ST. JOHN'S HOSPITAL.

To the Editor of THE LANCET.

SIR,—Mr. Alexander has answered my "extraordinary" letter by a letter still more extraordinary. If he is "not a very aged gentleman," and *does* know something of the business of the hospital, he is—to put it mildly—extremely reckless in his assertions. He says I am not, and never was, a subscriber to the funds of the hospital. I will not follow the example of courtesy set by Mr. Alexander, and therefore refrain from giving him the lie direct. I simply enclose for your inspection the receipt for my subscription, signed by the treasurers of the hospital, and expressly constituting me a governor for nine years from October 1st, 1870. I also enclose a copy of a printed circular, issued in 1870, appealing for subscriptions, in which my name (with a slight typographical error) is printed as a subscriber, and another in which I figure as a member of the Committee. This circular is signed "H. A. Alexander." In the face of these documents, Mr. Alexander's audacity in denying me a *locus standi* amounts to impertinence. Besides have I not a *locus standi* as one of the public appealed to for money?

Mr. Alexander is equally unfortunate in his other statements. While admitting that twelve months did elapse without my having been summoned to a Committee meeting, he endeavours to excuse the neglect by saying that owing to an arrangement made "long ago," by which the Committee met regularly once a month, no summonses were necessary! He actually says this in face of his letter to me of July 10th, wherein it is stated that several gentlemen had "recently resigned because they were summoned too often." Why were these gentlemen "summoned too often" if summonses were only necessary on special occasions—that is, once a year? This arrangement must have been made very "long ago" indeed. Mr. A. takes care not to give the date, no mention of it was ever made in my presence, and the letter I have quoted shows that even if it existed it was never acted upon. In fact, when I was requested to act, a special point was made of the fact that my office being so near to the hospital, I might attend when required without much inconvenience. If "two gentlemen resigned because they were summoned too often," why not have given me a turn oftener than once a year?

Mr. A. does not attempt to deny that I did protest against the accounts not having been checked, but attempts to evade the point by saying that I seconded a resolution ordering the balance-sheet to be printed. Of course I did; but I explained very fully in my last letter my reasons for not making myself too officious, and wished to see something more of the mode of conducting business at this hospital before expressing myself more strongly.

Mr. A. asserts that there was one more Committee-man present than I have stated. I maintain the accuracy of my previous statement—viz., that the chairman and myself formed the Committee, with the two surgeons, whom I considered to be *ex-officio* members, and responsible to the Committee for the proper application of the funds, as they were kind enough to combine with their other duties the office of treasurers in addition to that of secretary.

If the business of the hospital is attended to properly, and the auditors always find the accounts so "scrupulously correct," why are they so modest as not to append their names to the enclosed balance-sheet; and why should Captain Mercier have to send to me the other day to ascertain the date and amount of my subscription?

There are one or two less important inaccuracies in your correspondent's letter; but regard for your valuable space compels me to pass them unnoticed. Enough has been said to show the value of *his* communication. I cannot refrain, however, from protesting against his extraordinary *dictum*, that it is not a Committee's business to examine vouchers, &c. This is so very comfortable a doctrine for officials that I begin to suspect our friend "the clerk" must have had a hand in the letter. It is, in effect, saying that an employer must not examine his clerk's accounts, but must wait for the annual visit of the accountant! To enunciate such a doctrine is to refute it, and I will not insult your readers by wasting time in demonstrating how absurdly false it is.

It must be apparent to your readers that I could have no motive for disparaging a deserving charity; I have acted simply from a feeling of duty. I am neither a martyr to *cacoethes scribendi* nor a pugnacious busybody, and regret that my duty compelled me to write as I did. I must, however, emphatically reiterate every statement made in my first letter.

As I cannot condescend to take part in a personal squabble with this mythical "Hon. Sec." who has so coarsely attacked my veracity, I must decline taking any further notice of him or of his colleagues.

I cannot offer you too many apologies for occupying so much valuable space, and hope that you will find room for this my final effusion.

I am, Sir, yours obediently,

SAMUEL GOLBOURN.

Princes-street, Leicester-square, Aug. 26th, 1873.

*** The authorities of St. John's Hospital have furnished another instance of the truth of the proverb, *Qui s'excuse, s'accuse*. They have indeed demonstrated what we have endeavoured to show—namely, that their affairs are mismanaged; that they have for the most part kept no proper balance-sheet; that, in fact, the establishment is unworthy of public support. Our correspondent, Mr. Golbourn, has sent for our inspection the receipt, signed by the treasurers, which he received on October 1st, 1870, for a donation "to the funds of this institution, entitling to the privileges of a governor for nine years"; and he has also forwarded one of the old appeals for funds, which we regret we were not acquainted with earlier, for then it would have been quite unnecessary to publish Captain Mercier's letters, which are practically little more than transcripts from this remarkable production. Finally, it is not our intention to publish any further correspondence concerning this institution, for the present at least; but we trust that, aided in no small degree by the officials themselves, we have succeeded in exposing the maladministration of this hospital, and in showing the desirability of the public making itself well informed of the actual workings of a hospital before lending it any aid or influence; for there are numberless deserving charities in this country which are in need of help, but which through undue modesty in advancing their claims are neglected.—ED. L.

T. W. L., (M.B., &c.)—We can assure our correspondent that no imputation was meant, and that "the attack" is one entirely of his own invention. We hope he will read our article again, when he will, we are sure, absolve us from the charge of careless writing, or any wish to give annoyance.

CHINCHONIDIN.

A CORRESPONDENT asks whether the alkaloid chinchonidin, used in large doses in cases of intermittent fever, is free from the bad qualities which in the ordinary preparations of bark produce chinchonism, with intense headache, &c.

Dr. Hayes, (Varna.)—We have communicated with the gentleman, and are informed by him (1) that he never at any time claimed to have seen cases of cholera in Turkey; (2) that he *had* sanitary charge of Turkish railways in 1865.

A DISCLAIMER.

Mr. W. H. Pope requests us to state that the paragraph in the Birmingham newspaper, reproduced in THE LANCET, was inserted without his knowledge.

Inquirer.—A coroner is bound to issue his summons in a prescribed form, any other order being invalid. No penalty could be enforced against a medical officer for disobeying an order not drawn up in accordance with the requirements of the statute.

Dr. Nicholls, (Chelmsford.)—Apply to a wholesale druggist.

Surgeon-Major, (Calcutta.)—We have made the suggestion more than once; but the present Government is understood to be very averse to increasing the ineffective list.

Mr. Blaker (Brighton) is thanked.

Historicus, (Brighton.)—The Plantagenets never professed to cure scrofula by the Royal touch. It was reserved for the Stuarts to claim that miraculous gift.

THE HARVEST BUG OR RED SPIDER.

A CORRESPONDENT will be grateful to any reader for suggesting anything that will prevent or remedy the bites of this insect.

COMMUNICATIONS, LETTERS, &c., have been received from—Prof. Humphry, Cambridge; Dr. Hermann Weber, London; Dr. Morrell Mackenzie, London; Dr. Britton, Brighouse; Mr. Johnson, New Wimbledon; Mr. Reid, Odiham; Mr. Morgan, Totnes; Mr. Dawson, Sunderland; Mr. Kendrick, Bristol; Mr. Horton, Stoke; Mr. Barker, Eastbourne; Mr. Force, Exeter; Mr. Wilson, Sheffield; Mr. Colman, Prestwich; Mr. Paine, Bournemouth; Dr. Murray, London; Dr. Hess, London; Mr. P. Smith, Shepton Mallet; Mr. Pearse, Wellington; Dr. Dougall, Glasgow; Dr. Crowther, Luddenden; Dr. Milligan, Ashbourne; Mr. Harris, Birmingham; Dr. Holter, Dorchester; Mr. Cassells, Glasgow; Dr. C. Black, Glasgow; Dr. Goodchild, Ealing; Dr. Nicholls, Chelmsford; Dr. Poole, London; Dr. Groves, Leeds; Mr. Higgins, London; Mr. Pearse, Brierley Hill; Mr. Lowther, Cartmel; Rev. B. Killick, London; Mr. Woolhouse, Sheffield; Mr. Arden, Slough; Mr. Fieldson, Hillingdon; Dr. Harris, Melton; Mr. Roberts, Wallingford; Dr. Daly, Dalston; Mr. Mann, Bawtry; Mr. Jacobs, Feltham; Mr. Martin, Whitchurch; Mr. E. Jameson, Canterbury; Dr. Macpherson, Coleford; Dr. Roberts, Sheffield; Mr. Griffin, Chelmsford; Mr. Besler, Uppingham; Mr. Brett, Fordingbridge; Mr. Pope, Wolverhampton; Mr. Barber, Sunderland; Mr. Davids, Thirsk; Mr. Waddell, Tombland; Mr. R. Hayward, London; Dr. Graham, Liverpool; Mr. Leake, Ramsgate; Mr. J. Walford, Sheffield; Dr. Long, Dalston; Mr. Kennison, Litchfield; Mr. Dix, London; Mr. Archer, Dudley; Mr. Treacher, Weston-super-Mare; Dr. Hitchman, Liverpool; Mr. S. Benson, Hull; Dr. Saunders, Bristol; Mr. Wilkinson, Spennymoor; Mr. Tresize, St. Just; Dr. De Foes, London; Mr. Maddison, Jarrow; Dr. Wood, Dumfries; Mr. Kempthorne, Callington; Dr. Waters, Liverpool; Dr. Reed, Manchester; Mr. Jones, Dowlais; Mr. Morgan, Blaenavon; Mr. Taylor, Bocking; Dr. Wilson, Glasgow; Dr. Waghorn, Watford; Mr. Baynes, Darlington; Mr. Hunt, Salisbury; Mr. Langmore, London; Dr. Gouley, New York; Mr. Brown, Hull; Dr. Harris, Redruth; Mr. Jackson, Bala; Mr. R. Henry, Chatham; Mr. W. Harman, Kettering; Dr. Tibbits, London; Mr. Richards, Hastings; Mr. W. Warren, Bath; Mr. Dewey, Perth; Mr. Wragg, Rotherham; Mr. T. Mason, Woodford; Dr. Wiltshire, London; Mr. Ross, Waterfoot; Mr. Wood, Leamington; Mr. J. Williams, Corwen; Mr. Brierly, Stirling; Mr. B. Chambers, Ware; Dr. Fleming, Glasgow; Mr. Flower, London; Mr. Wilson, Birmingham; Mr. M. Baker, London; Dr. Bennet, Devonport; Mr. Adams, Greenwich; Dr. C. Reed, London; Dr. Woodford, Ventnor; Mr. Fawcett, Dolgelly; Mr. Shepard, Ulx; Mr. Parry, Edinburgh; Dr. Fyfe, London; Mr. Keene, Chelmsford; Mr. Golbourn, London; Mr. Darley, London; Dr. Adams, Barnes; Dr. Dingan, Gainsborough; Mr. De Keyser, Oxford; Mr. Odell, Hertford; Mr. Scarlett, Gillingham; Mr. Deane, Gloucester; Mr. Tudor, Goole; Mr. Warren, Llandudno; Mr. Powell, Waltham; Mr. W. Paulson, Mountsorrel; Mr. Barton, Sydenham; Mr. Hind, London; Mr. Mayne, Warwick; Mr. Robertson, Edinburgh; Dr. Ledwich, Dublin; Dr. Norton, Putney; Mr. Bandeld, Yarmouth; Mr. Sutton, Birmingham; Mr. Jenner, York; Dr. Barkley, Hogsthorpe; Mr. Nicholson, London; Dr. Macpherson, London; Mr. Walker, Bradford; Mr. Hampton, Hertford; Mr. Anderson, Alford; Mr. Moore, Patcham; Mr. Johns, Merton; Mr. Blaker, Brighton; Mr. Maconochie; Mr. Gibson, Clapham Junction; A Subscriber; Rupert; The Military Secretary, India Office; H. L.; A. B.; Student; Nauticus; A. M. O. R. C.; A Sufferer; A Medical Officer of Health; Senex; Medicus; J. C. B.; The Director-General of the Army Medical Department; M. O. H.; M.R.C.S.; Inquirer; &c. &c.

Brighton Herald, Eastern Post, Essex Weekly News, Lincoln Journal, and *Wellington Weekly News* have been received.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, AUGUST 28TH, 1873.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall.	Remarks at 9 A.M.
Aug. 22	29·94	W.	61	66	104	72	56	...	Overcast
" 23	29·96	S.S.W.	58	62	110	77	54	0·05	Overcast
" 25	29·94	W.	63	66	111	79	57	...	Fine
" 26	29·94	S.W.	60	65	112	74	60	...	Fine
" 27	29·98	S.W.	57	64	110	69	54	0·01	Fine
" 28	29·68	S.W.	58	62	102	69	59	...	Overcast

Medical Diary of the Week.

Monday, Sept. 1.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations on the Eye, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, Sept. 2.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Sept. 3.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 3½ P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, Sept. 4.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Friday, Sept. 5.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Sept. 6.

HOSPITAL FOR WOMEN, Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

TERMS OF SUBSCRIPTION TO THE LANCET.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year..... £1 13 6 | Six Months..... £0 16 3

TO THE COLONIES.		TO INDIA.	
One Year.....	£1 14 8	One Year.....	£1 19 6

Post-office Orders in payment should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable to him at the Post-office, Charing-cross.

TERMS FOR ADVERTISING IN THE LANCET.

For 7 lines and under	£0 4 6	For half a page	£2 12 6
For every additional line.....	0 0 6	For a page	5 0 0

The average number of words in each line is eleven.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday; those from the country must be accompanied by a remittance.

Agent for the Advertising Department in France—
Mons. DE LOMINIE, 208, Rue Grenelle, St. Germains, Paris.